Clinical Lectures
ON
DISEASES OF THE LIVER.

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No. VI.

ENLARGEMENTS OF THE LIVER.—(*Continued.*)

Introductory remarks. Normal dimensions and boundaries of the liver. Circumstances under which enlargement of the liver is simulated, and the means of distinguishing such spurious enlargements—1. *Congenital malformations;* 2. *Early life;* 3. *Rickets;* 4. *Tight-lacing;* 5. *Certain diseases of the chest;* 6. *Tumour between the liver and diaphragm;* 7. *Abnormal conditions of the abdominal viscera;* 8. *Abnormal conditions of the abdominal parietes. True enlargements of the liver. Subdivision into Painless and Painful.* 1. *The waxy, lardaceous, or amyloid liver.* 2. *The fatty liver.* 3. *Simple hypertrophy.* 4. *Hydatid tumour.* 5. *Congestion.* 6. *Catarrh of bile-ducts.* 7. *Obstruction of common duct, and retention of bile.* 8. *Pyæmic abscesses.* 9. *Tropical abscess.* 10. *Cancer.*

GENTLEMEN,—The next form of enlargement of the liver attended by pain, to which I wish to direct your attention, is

III. *Enlargement from obstruction of the common bile-duct by calculi, tumours, &c.*—Obstruction of the common bile-duct may lead to enlargement of the liver in two ways.

a. By causing dilatation of the biliary passages with accumulation of bile in them. But if the obstruction be of long standing, the liver may ultimately contract to less than its natural size, its secreting tissue becoming atrophied from the pressure of the permanently distended bile-ducts, as in Case 4.

b. By inducing catarrhal inflammation of the biliary passages, associated with more or less congestion of the hepatic tissue.

The distinguishing characters of the enlargement of the liver that occurs under such circumstances are as follows:—

1. The enlargement is rarely great, and, with one important exception, it is uniform in every direction. The exception referred to is due to the enlargement of the gall-bladder, which can often be felt as a pyriform tumour projecting from the lower margin of the liver. This enlargement is due, in the first place, to an accumulation of bile, but after a time not unfrequently to the admixture or substitution of inflammatory products. The late Dr. Bright has recorded a case in which such an enlargement of the gall-bladder formed an oval tumour descending nearly to the crest of the ilium;* and you have had an opportunity of examining a similar though smaller tumour in the case of J. W——. (Case 2, and Fig. 12.)

2. There is jaundice, which, like the pain about to be referred to, is usually in the first instance paroxysmal, but by the time that the liver becomes enlarged is permanent and usually intense, and is accompanied by a total disappearance of bile-pigment from the motions. In cases of persistent jaundice, where from the colour of the motions it is clear that the flow of bile into the bowel has been obstructed for many weeks, there can be little doubt that there is obstruction of the common duct; and if the jaundice has been at first paroxysmal, the cause of that obstruction is probably an impacted gall-stone. But if there be no evidence of the jaundice having been paroxysmal, it may be difficult to say whether the obstruction be due to an organic obliteration of the duct at its duodenal opening from an ulcer, as in Case 4, or from a cancerous growth in the duodenum, or to a tumour in some other part of the course of the duct, or to pressure by a tumour on the duct from without. Under such circumstances, the diagnosis must rest mainly on the other characters about to be mentioned. I may now, however, call your attention to the fact that occasionally the diagnosis is materially assisted by the coexistence of ascites with jaundice. When permanent jaundice, with complete absence of bile from the motions, and ascites without dropsy elsewhere are present in the same case, you will rarely be wrong in inferring that the obstruction of the gall-duct, which causes the jaundice, and the obstruction of the portal vein, from which the ascites results, are due to a common cause. That cause cannot be a gall-stone. This will obstruct the bile-duct, but cannot obstruct the flow of blood in the portal vein, so as to produce ascites. The double obstruction is most likely to be caused by pressure from without upon the gall-duct and portal vein, where they lie side by side in the fissure of the liver, by enlarged lymphatic glands, by a tumour in the head of the pancreas, or by cancerous nodules projecting from the surface of the liver itself. In the advanced stage of cirrhosis it is not uncommon for jaundice to coexist with ascites; but then the liver is small, the jaundice is slight—little more than sallowness, and, what is more important, the colour of the motions proves that bile-pigment is still secreted, and finds its way into the bowel. There is not a complete absence of bile-pigment from the excrement.

3. If there be catarrh of the ducts, there will be pain and tenderness in the region of the liver, and particularly in the situation of the enlarged gall-bladder; if there be no catarrh, there may be neither pain nor tenderness. In either case, however, there will in most cases be a history of biliary colic, or of sudden and severe attacks of abdominal pain, occasionally preceded by rigors, and associated with jaundice, and often with vomiting. These paroxysms of pain and jaundice, prior to persistent jaundice and enlargement of the liver, are, in fact, the distinguishing character of obstruction from gall-stones. But there are two sources of fallacy in diagnosis which must be kept in view. In the first place, a gall-stone may obstruct the common duct, so as to cause permanent jaundice, with enlargement of the liver, without ever having excited attacks of biliary colic. Such cases, it is true, are exceptional; but the possibility of their occurrence must not be forgotten. In the case of J. K—— (Case 3), you will remember that gall-stones were found after death in the gall-bladder and in the bile-ducts, and yet the most careful inquiry failed to elicit any history of biliary colic. In post-mortem examinations, it is not uncommon to find the channel of the cystic ducts obliterated by a gall-stone, although nothing to lead to the suspicion of gall-stones had ever existed during life; and the common duct at its commencement occasionally becomes obstructed in an equally latent manner, so far as pain is concerned. The paroxysmal pain is most probably caused by the passage of the calculus *along the duct*, and particularly through the duodenal opening; so that, when the concretion does not advance beyond the cystic, or the beginning of the common duct, it may not occur. The second source of fallacy lies in the fact that spasmodic attacks of abdominal pain, followed by jaundice, occasionally occur independently of the passage of gall-stones. Thus an ulcer of the duodenum near the opening of the common duct has been known to induce such attacks, the jaundice resulting from an extension of the ulcer to the opening from cicatricial contraction, or from catarrhal inflammation spreading up the duct. In such a case an accurate diagnosis may be impossible; for though the occurrence of the paroxysms immediately after obvious errors in diet, or in conjunction with other symptoms of duodenal ulcer, might point to this as the probable cause, yet duodenal ulcer is in most cases a remarkably latent disease. Fortunately cases of this sort are so rare as not often to embarrass the diagnosis.

4. There is an absence of rigors, hectic fever, or the phenomena of the cancerous cachexia. In some cases of persistent enlargement of the liver with jaundice, these negative characters are of considerable importance in diagnosis. At the same time, it is necessary to bear in mind that, even when the cause of the enlargement and jaundice is an impacted gall-stone, the nutrition of the body is interfered with, and the individual wastes, while he also suffers from flatulence and other symptoms of indigestion. You must also not forget that these are not the only serious evils which may result from gall-stones. The pressure of these concretions may excite ulceration of the mucous membrane of the gall-bladder or of the bile-ducts; and this ulceration may go on to perforation and fatal peritonitis; or, as more commonly happens, the materials absorbed from the ulcerated surface may lead to the formation of pyæmic deposits in the liver, and death with all the symptoms of pyæmia. Cases illustrating these results of gall-stones I shall have occasion to bring under your notice hereafter. In this way, an attack, which in the first instance appears to be

* Abdominal Tumours, 3rd. Soc. Ed., p. 271.

nothing more than one of colic from gall-stones, may unexpectedly assume all the symptoms of peritonitis or pyæmia, and prove fatal; and the practitioner, if he be not on his guard, may incur unmerited discredit.

5. The age, sex, and habits of a patient may occasionally lend slight assistance in the diagnosis of gall-stones. Gall-stones are chiefly met with in persons of sedentary habits; they are twice as common in females as in males, and they are rare except in persons of middle or advanced age. Of 395 cases of gall-stones collected by a German physician, Heim, only 3 were under twenty years of age, and 15 under twenty-five.

The following case is a good illustration of enlargement of the liver and jaundice from gall-stones. Many of you had an opportunity of seeing the patient, who attended regularly as an out-patient under my care from Sept. 1865, to July, 1866.

CASE 1.—Jacob G——, aged fifty-nine, came to the hospital on Sept. 13th, 1865, complaining of dyspepsia, flatulence, and jaundice. His illness had commenced a week before with a paroxysm of rigors and excruciating twisting pain in the abdomen, accompanied by vomiting. The paroxysm lasted two or three hours, and had recurred several times during the week. The jaundice was intense, the urine was of the colour of porter, and the patient complained greatly of a bitter taste in the mouth and of a "nasty stinging itchiness" of the entire skin. The motions were clay-coloured, and the hepatic dulness was uniformly increased, amounting to upwards of five inches in the right mammary line. No tumour corresponding to the gall-bladder could be felt, and there was but slight tenderness below the right ribs.

By October 6th the jaundice had quite disappeared; but on the 27th he had a return of the severe paroxysms of pain with jaundice, and all the other symptoms as before. This ran much the same course as the first attack; but between October, 1865, and July, 1866, he had five other attacks, always accompanied by vomiting and by intense jaundice, which passed off in the intervals. When I last saw him in July he had no jaundice; he had been free from any paroxysm of pain for six weeks; he was not emaciated, and his general health was tolerably good.

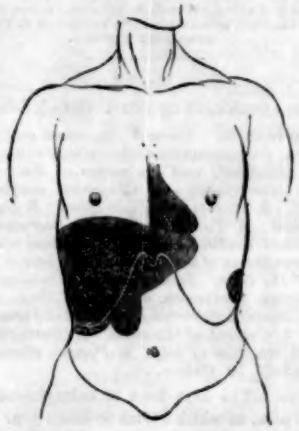
The treatment which seemed to be of most service in this case consisted in alkalies (bicarbonate of soda) and vegetable bitters, and the use of opium, warm fomentations and warm baths during the paroxysms of pain.

The following case, which has been under your observation for some weeks, is a good illustration of enlargement of the liver and jaundice, apparently from gall-stones, except that the patient's age was considerably under that at which gall-stones are ordinarily met with. In this case also the enlargement of the gall-bladder and many of the other symptoms appeared to be due to catarrhal inflammation of the bile-ducts and gall-bladder, excited by the gall-stone.

CASE 2.—John W——, aged thirty, a stone-cutter, was admitted on Feb. 5th, 1867. He had enjoyed good health until six months before he came to hospital, when he began to suffer from acute paroxysms of pain in the abdomen. For a week he would have several paroxysms daily; then he would be free for a week, and during this interval he would be able to resume his work. The attacks were not accompanied by vomiting, but the first was followed by jaundice, which has never left him. The paroxysms of pain continued to recur for six weeks, but subsequently to this he had none; he had suffered much, however, from flatulence and itchiness of the skin, and had lost flesh. On admission, there was universal jaundice of moderate intensity; the urine was loaded with bile-pigment, but the motions contained none. The hepatic dulness was moderately and uniformly increased, measuring five inches in the right mammary line. No tumour corresponding to the gall-bladder could be discovered, but possibly this was obscured by the flatulent distension of the bowels. There was no ascites. The tongue was moist, and but slightly furred. The patient's appetite was good, and he never vomited; but he was obliged to be very careful as to his diet, as he suffered much from flatulence and pain after eating. The pulse was 72.

About a fortnight after the patient's admission he became much worse; and on Feb. 20th it was noted that the jaundice had increased, that the urine was darker, and that the hepatic dulness was increased, measuring fully five and a half inches in the right mammary line. In addition, there was now in the situation of the gall-bladder a distinct tumour (see Fig. 12), extending an inch and a half below the margin of the liver, and measuring two and a half inches transversely. This was tender on pressure. The temperature had risen to 104·2° F., and the pulse to 96. The tongue was somewhat dry, and the motions were perfectly devoid of bile. These symptoms continued, with occasional vomiting, for several days; but on Feb. 25th the temperature had fallen to 99·2°, and on the 27th to 97°. On March 1st the pulse was down to 72, and the tumour in the region of the gall-bladder had disappeared. On March 4th the motions contained abundance of bile, and the jaundice was fading. By the beginning of April the jaundice had almost disappeared; and in May the patient was able to resume his employment.

FIG. 12.



Shows the enlargement of the liver and the tumour in the case of J. W——, on Feb. 20th. Compare this with Fig. 2, in THE LANCET of March 16th, 1867.

The motions were carefully searched for gall-stones for ten days subsequent to Feb. 24th, but none were found. Possibly a gall-stone may have either become disintegrated, or slipped back into the gall-bladder. During the acute stage the patient was treated with alkalies, ammonia, ether, belladonna, and opium. During convalescence, strychnia appeared to relieve the flatulence; and the disappearance of the jaundice was encouraged by warm baths and diaphoretics.

CASE 3.—Most of you will remember the patient, J. K——, aged forty-nine, who was a patient in Cambridge ward from Oct. 27th, 1866, until his death on November 21st. His story was that he had enjoyed good health until the previous June, when he began to suffer from loss of appetite, lowness of spirits, and pain and flatulence after meals. About the same time he got a rusty nail into his left big toe. This resulted in an abscess, which burst and continued discharging until a few days before admission. He had continued working, however, as a labourer, until within the last three weeks. During his illness his weight had diminished from 12 st. to 11 st. 5 lbs. On October 20th he had a severe rigor lasting for three hours, and followed by a rather severe constant "gnawing" pain, with tenderness in the region of the liver, vomiting of bitter green fluid, and headache. Two days later his skin became jaundiced, and he suffered from itchiness of the skin and loss of sleep. About the same time that the jaundice appeared, the left big toe became black and the ulceration extended. At no time of his life had he suffered from symptoms of biliary colic.

On admission it was noted that the patient had rather deep jaundice of the skin and conjunctivæ. He complained of general itchiness, and of dull pain in the region of the liver, which was uniformly enlarged, the dulness in the right mammary line being five inches and a half. There was also decided tenderness at a spot corresponding to the gall-bladder, which was also enlarged. The abdomen was distended and tympanitic; the ingesta were constantly vomited within half an hour; the tongue was moist, jaundiced, and furred; the bowels were costive, and the motions stone-coloured. The urine was of the colour of porter, and contained a large quantity of bile-pigment and also of albumen, with granular and a few oil-casts. On the dorsum and sole of the left big toe were several large sloughy ulcers, the surrounding soft parts being much swollen and livid. The pulse was 72; the skin cool, and there had been no rigors or perspirations. The patient was treated with blisters and mustard and linseed poultices to the region of the liver, while bismuth, chloric ether, purgatives, &c., were given internally.

For some time there appeared to be considerable improve-

ment: the jaundice diminished, and bile reappeared in considerable quantity in the motions. But about Nov. 12th the vomiting became more urgent, and the prostration increased. On Nov. 19th the left foot was found to be much swollen, and livid lines marking the course of the lymphatics passed up the legs. On Nov. 20th, an abscess was opened above the left ankle, from which fetid pus and gas escaped. On the same day he was seized with a fit of convulsions, followed by coma. These fits recurred in rapid succession, so that he had nearly thirty before his death at five P.M. on Nov. 21st.

On examination of the body after death, the brain and its membranes were found to be normal, except that there was a considerable amount of fluid, which contained urea, at the base and in the lateral ventricles. The kidneys were considerably enlarged, and there was much fatty and granular deposit in the secreting cells. The liver was large, and weighed 80 oz.; its secreting cells were loaded with oil; the lobules were unusually distinct, giving a granular appearance to the organ on section. The gall-bladder contained a soft, black concretion, as large as a walnut, and many small, irregularly-shaped fragments of the same material. These were suspended in a small quantity of dark-green viscid fluid, which, on microscopic examination, was found to contain a large number of pus-corpuscles. The mucous surface of the gall-bladder had a stretched, white appearance, and at the fundus was deeply injected, granular, and excoriated. The bile-ducts contained a similar viscid fluid to that in the gall-bladder, with minute particles of black inspissated bile. This could be squeezed into the duodenum without much difficulty. The mucous membrane of the stomach and duodenum was minutely injected with numerous small ecchymoses, and the surface was coated with much viscid mucus. There was great œdema and congestion of both lungs. Fat was deposited in large quantity throughout the body, and all the soft tissues were deeply jaundiced.

The examination made it clear that the fatal result was due to uræmia, while it also showed that the hepatic symptoms were probably the result of catarrh of the gall-bladder and bile-ducts, excited by the gall-stones, but which was subsiding before death.

In the case from which this preparation was obtained, there was painful enlargement of the gall-bladder and jaundice, arising from obstruction of the duct caused by cicatrisation of a duodenal ulcer.

CASE 4.—James B——, aged sixty-nine, a coachman, was admitted, under Dr. Stewart, on May 4th, 1861. With the exception of a similar but less severe attack some years before, he had enjoyed good health until four months before admission, when he had been suddenly seized with acute pain in the right hypochondrium, vomiting of bitter matter, and much fever. After a few days his skin became jaundiced, and he had great formication. The jaundice increased in intensity, but the formication diminished. Latterly he had suffered from palpitation in the cardiac region and throbbing in the head, and he had lost both flesh and strength.

On admission, the patient was emaciated and feeble; the pulse was 72, and intermitting; the whole skin and the conjunctivæ were bright yellow. The patient complained of a dull pain in the region of the liver, the dulness on percussion of which appeared considerably increased, measuring upwards of five inches in the right mammary line. On more careful examination, it was ascertained that this enlargement was limited to the situation of the gall-bladder, and that posteriorly and laterally the hepatic dulness was diminished. The patient was treated with alkalies, ammonia, vegetable bitters, and stimulants; but his prostration rapidly increased, and on May 19th he died from exhaustion.

At the autopsy, the liver was found to be small, pale, and flabby. Its lower margin did not reach so far as the edge of the ribs. The gall-bladder was about four times the normal size, and was filled with a colourless, flaky fluid, destitute of any tint of bile. The cystic, hepatic, and common ducts were all enormously dilated, the common duct being larger than one's finger, and all were filled with a colourless fluid, similar to that in the gall-bladder. The bile-ducts also in the interior of the liver were greatly dilated as far even as the outer surface, and filled with a similar fluid, which flowed out when the liver was cut into. There was no calculus in the gall-bladder or in any of the ducts, but the orifice of the common duct in the duodenum was completely blocked up. The mucous membrane at this part was considerably thickened, forming a nipple-like prominence about the size of a hazel-nut, and around this the membrane had a radiated, puckered appearance, as if from the cicatrisation of an ulcer. There was much atheroma of the aorta and of the valves of the heart. The prostate was enlarged, the bladder inflamed, and the kidneys were granular, with dilatation of the pelves and calices.

The contraction of the liver in this case was, no doubt, due to the long duration of the obstruction, the hepatic tissue having become atrophied from the pressure of the permanently distended bile-ducts.

ON THE ANTISEPTIC PRINCIPLE IN THE PRACTICE OF SURGERY.*

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IN the course of an extended investigation into the nature of inflammation, and the healthy and morbid conditions of the blood in relation to it, I arrived, several years ago, at the conclusion that the essential cause of suppuration in wounds is decomposition, brought about by the influence of the atmosphere upon blood or serum retained within them, and, in the case of contused wounds, upon portions of tissue destroyed by the violence of the injury.

To prevent the occurrence of suppuration, with all its attendant risks, was an object manifestly desirable; but till lately apparently unattainable, since it seemed hopeless to attempt to exclude the oxygen, which was universally regarded as the agent by which putrefaction was effected. But when it had been shown by the researches of Pasteur that the septic property of the atmosphere depended, not on the oxygen or any gaseous constituent, but on minute organisms suspended in it, which owed their energy to their vitality, it occurred to me that decomposition in the injured part might be avoided without excluding the air, by applying as a dressing some material capable of destroying the life of the floating particles.

Upon this principle I have based a practice of which I will now attempt to give a short account.

The material which I have employed is carbolic or phenic acid, a volatile organic compound which appears to exercise a peculiarly destructive influence upon low forms of life, and hence is the most powerful antiseptic with which we are at present acquainted.

The first class of cases to which I applied it was that of compound fractures, in which the effects of decomposition in the injured part were especially striking and pernicious. The results have been such as to establish conclusively the great principle, that *all the local inflammatory mischief and general febrile disturbance which follow severe injuries are due to the irritating and poisoning influence of decomposing blood or sloughs.* For these evils are entirely avoided by the antiseptic treatment, so that limbs which otherwise would be unhesitatingly condemned to amputation may be retained with confidence of the best results.

In conducting the treatment, the first object must be the destruction of any septic germs which may have been introduced into the wound, either at the moment of the accident or during the time which has since elapsed. This is done by introducing the acid of full strength into all accessible recesses of the wound by means of a piece of rag held in dressing forceps and dipped in the liquid.† This I did not venture to do in the earlier cases; but experience has shown that the compound which carbolic acid forms with the blood, and also any portions of tissue killed by its caustic action, including even parts of the bone, are disposed of by absorption and organisation, provided they are afterwards kept from decomposing. We are thus enabled to employ the antiseptic treatment efficiently at a period after the occurrence of the injury at which it would otherwise probably fail. Thus I have now under my care in the Glasgow Infirmary a boy who was admitted with compound fracture of the leg as late as eight and a half hours after the accident, in whom nevertheless all local and constitutional disturbance was avoided by means of carbolic acid, and the bones were firmly united five weeks after his admission.

The next object to be kept in view is to guard effectually against the spreading of decomposition into the wound along

* A paper read before the British Medical Association in Dublin on the 9th of August, 1867.

† The addition of a few drops of water to a considerable quantity of the crystallised acid induces it to assume permanently the liquid form.

the stream of blood and serum which oozes out during the first few days after the accident, when the acid originally applied has been washed out, or dissipated by absorption and evaporation. This part of the treatment has been greatly improved during the last few weeks. The method which I have hitherto published* consisted in the application of a piece of lint dipped in the acid, overlapping the sound skin to some extent, and covered with a tin cap, which was daily raised in order to touch the surface of the lint with the antiseptic. This method certainly succeeded well with wounds of moderate size; and, indeed, I may say that in all the many cases of this kind which have been so treated by myself or my house-surgeons, not a single failure has occurred. When, however, the wound is very large, the flow of blood and serum is so profuse, especially during the first twenty-four hours, that the antiseptic application cannot prevent the spread of decomposition into the interior unless it overlaps the sound skin for a very considerable distance, and this was inadmissible by the method described above, on account of the extensive sloughing of the surface of the cutis which it would involve. This difficulty has, however, been overcome by employing a paste composed of common whitening (carbonate of lime) mixed with a solution of one part of carbolic acid in four parts of boiled linseed oil, so as to form a firm putty. This application contains the acid in too dilute a form to excoriate the skin, which it may be made to cover to any extent that may be thought desirable, while its substance serves as a reservoir of the antiseptic material. So long as any discharge continues, the paste should be changed daily; and, in order to prevent the chance of mischief occurring during the process, a piece of rag dipped in the solution of carbolic acid in oil is put on next the skin, and maintained there permanently, care being taken to avoid raising it along with the putty. This rag is always kept in an antiseptic condition from contact with the paste above it, and destroys any germs that may fall upon it during the short time that should alone be allowed to pass in the changing of the dressing. The putty should be in a layer about a quarter of an inch thick, and may be advantageously applied rolled out between two pieces of thin calico, which maintain it in the form of a continuous sheet, that may be wrapped in a moment round the whole circumference of a limb, if this be thought desirable, while the putty is prevented by the calico from sticking to the rag which is next the skin.† When all discharge has ceased, the use of the paste is discontinued, but the original rag is left adhering to the skin till healing by scabbing is supposed to be complete. I have at present in the hospital a man with severe compound fracture of both bones of the left leg, caused by direct violence, who, after the cessation of the sanious discharge under the use of the paste, without a drop of pus appearing, has been treated for the last two weeks exactly as if the fracture were a simple one. During this time the rag, adhering by means of a crust of inspissated blood collected beneath it, has continued perfectly dry, and it will be left untouched till the usual period for removing the splints in a simple fracture, when we may fairly expect to find a sound cicatrix beneath it.

We cannot, however, always calculate on so perfect a result as this. More or less pus may appear after the lapse of the first week; and the larger the wound the more likely is this to happen. And here I would desire earnestly to enforce the necessity of persevering with the antiseptic application, in spite of the appearance of suppuration, so long as other symptoms are favourable. The surgeon is extremely apt to suppose that any suppuration is an indication that the antiseptic treatment has failed, and that poulticing or water-dressing should be resorted to. But such a course would in many cases sacrifice a limb or a life. I cannot, however, expect my professional brethren to follow my advice blindly in such a matter, and therefore I feel it necessary to place before them, as shortly as I can, some pathological principles, intimately connected not only with the point we are immediately considering, but with the whole subject of this paper.

If a perfectly healthy granulating sore be well washed and covered with a plate of clean metal, such as block tin, fitting its surface pretty accurately, and overlapping the surrounding skin an inch or so in every direction, and retained in position by adhesive plaster and a bandage, it will be found, on removing it after twenty-four or forty-eight hours, that little or nothing that can be called pus is present, merely a little transparent fluid, while at the same time there is an entire absence of the unpleasant odour invariably perceived when water-dressing is changed. Here the clean metallic surface presenting no recesses, like those of porous lint, for the septic germs to develop in, the fluid exuding from the surface of the granulations has flowed away undecomposed, and the result is absence of suppuration. This simple experiment illustrates the important fact, that granulations have no inherent tendency to form pus, but do so only when subjected to a preternatural stimulus. Further, it shows that the mere contact of a foreign body does not of itself stimulate granulations to suppurate; whereas the presence of decomposing organic matter does. These truths are even more strikingly exemplified by the fact, which I have elsewhere recorded,* that a piece of dead bone, free from decomposition, may not only fail to induce the granulations around it to suppurate, but may actually be absorbed by them; whereas a bit of dead bone soaked with putrid pus infallibly induces suppuration in its vicinity.

Another instructive experiment is to dress a granulating sore with some of the putty above described, overlapping the sound skin extensively, when we find in the course of twenty-four hours that pus has been produced by the sore, although the application has been perfectly antiseptic; and, indeed, the larger the amount of carbolic acid in the paste the greater is the quantity of pus formed, provided we avoid such a proportion as would act as a caustic. The carbolic acid, though it prevents decomposition, induces suppuration—obviously by acting as a chemical stimulus; and we may safely infer that putrescent organic materials (which we know to be chemically acrid) operate in the same way.

In so far, then, carbolic acid and decomposing substances are alike—namely, that they induce suppuration by chemical stimulation, as distinguished from what may be termed simple inflammatory suppuration, such as that in which ordinary abscesses originate, where the pus appears to be formed in consequence of an excited action of the nerves, independently of any other stimulus. There is, however, this enormous difference between the effects of carbolic acid and those of decomposition—viz., that carbolic acid stimulates only the surface to which it is first applied, and every drop of discharge that forms weakens the stimulant by diluting it. But decomposition is a self-propagating and self-aggravating poison; and if it occurs at the surface of a severely injured limb, it will spread into all its recesses so far as any extravasated blood or shreds of dead tissue may extend, and, lying in these recesses, it will become from hour to hour more acrid till it acquires the energy of a caustic, sufficient to destroy the vitality of any tissues naturally weak from inferior vascular supply, or weakened by the injury they sustained in the accident.

Hence it is easy to understand how, when a wound is very large, the crust beneath the rag may prove here and there insufficient to protect the raw surface from the stimulating influence of the carbolic acid in the putty, and the result will be, first, the conversion of the tissues so acted on into granulations, and subsequently the formation of more or less pus. This, however, will be merely superficial, and will not interfere with the absorption and organisation of extravasated blood or dead tissues in the interior; but, on the other hand, should decomposition set in before the internal parts have become securely consolidated, the most disastrous results may ensue.

I left behind me in Glasgow a boy, thirteen years of age, who between three and four weeks previously met with a most severe injury to the left arm, which he got entangled in a machine at a fair. There was a wound six inches long and three inches broad, and the skin was very extensively undermined beyond its limits, while the soft parts generally were so much lacerated that a pair of dressing forceps introduced at the wound, and pushed directly inwards, appeared beneath the skin at the opposite aspect of the limb. From this wound several tags of muscle were hanging, and among them there was one consisting of about three inches of the triceps in almost its entire thickness; while the lower fragment of the bone, which was broken high up, was protruding four and a half inches, stripped of muscle, the skin being tucked in under it. Without the assistance of the antiseptic treatment, I should certainly have thought of nothing else but amputation at the shoulder-joint; but as the radial pulse could be felt, and the fingers had sensation, I did not hesitate to try to save the limb, and adopted the plan of treatment above described, wrapping the arm from the shoulder to below the elbow in the antiseptic application, the whole interior of the wound, together with the protruding bone, having previously been freely treated

* See THE LANCET for March 16th, 23rd, and 30th, and April 27th, of the present year.

† In order to prevent evaporation of the acid, which passes readily through any organic tissue, such as oiled silk or gutta percha, it is well to cover the paste with a sheet of block tin, or tinfoil strengthened with adhesive plaster. The thin sheet-lead used for lining tea-chests will also answer the purpose, and may be obtained from any wholesale grocer.

* See THE LANCET, March 23rd, 1867.

with strong carbolic acid. About the tenth day the discharge, which up to that time had been only sanious and serous, showed a slight admixture of slimy pus, and this increased till, a few days before I left, it amounted to about three drachms in twenty-four hours. But the boy continued, as he had been after the second day, free from unfavourable symptoms, with pulse, tongue, appetite, and sleep natural, and strength increasing, while the limb remained, as it had been from the first, free from swelling, redness, or pain. I therefore persevered with the antiseptic dressing, and before I left, the discharge was already somewhat less, while the bone was becoming firm. I think it likely that in that boy's case I should have found merely a superficial sore had I taken off all the dressings at the end of three weeks, though, considering the extent of the injury, I thought it prudent to let the mouth expire before disturbing the rag next the skin. But I feel sure that if I had resorted to ordinary dressing when the pus first appeared, the progress of the case would have been exceedingly different.

The next class of cases to which I have applied the antiseptic treatment is that of abscesses. Here, also, the results have been extremely satisfactory, and in beautiful harmony with the pathological principles indicated above. The pyogenic membrane, like the granulations of a sore, which it resembles in nature, forms pus, not from any inherent disposition to do so, but only because it is subjected to some preternatural stimulation. In an ordinary abscess, whether acute or chronic, before it is opened, the stimulus which maintains the suppuration is derived from the presence of the pus pent up within the cavity. When a free opening is made in the ordinary way, this stimulus is got rid of; but the atmosphere gaining access to the contents, the potent stimulus of decomposition comes into operation, and pus is generated in greater abundance than before. But when the evacuation is effected on the antiseptic principle, the pyogenic membrane, freed from the influence of the former stimulus without the substitution of a new one, ceases to suppurate (like the granulations of a sore under metallic dressing), furnishing merely a trifling amount of clear serum, and, whether the opening be dependent or not, rapidly contracts and coalesces. At the same time any constitutional symptoms previously occasioned by the accumulation of the matter are got rid of without the slightest risk of the irritative fever or hectic hitherto so justly dreaded in dealing with large abscesses.

In order that the treatment may be satisfactory, the abscess must be seen before it has opened. Then, except in very rare and peculiar cases,* there are no septic organisms in the contents, so that it is needless to introduce carbolic acid into the interior. Indeed, such a proceeding would be objectionable, as it would stimulate the pyogenic membrane to unnecessary suppuration. All that is necessary is to guard against the introduction of living atmospheric germs from without, at the same time that free opportunity is afforded for the escape of discharge from within.

I have so lately given elsewhere† a detailed account of the method by which this is effected, that it is needless for me to enter into it at present, further than to say that the means employed are the same as those described above for the superficial dressing of compound fractures—namely, a piece of rag dipped in the solution of carbolic acid in oil, to serve as an antiseptic curtain, under cover of which the abscess is evacuated by free incision; and the antiseptic paste, to guard against decomposition occurring in the stream of pus that flows out beneath it: the dressing being changed daily till the sinus has closed.

The most remarkable results of this practice in a pathological point of view have been afforded by cases where the formation of pus depended upon disease of bone. Here the abscesses, instead of forming exceptions to the general class in the obstinacy of the suppuration, have resembled the rest in yielding in a few days only a trifling discharge; and frequently the production of pus has ceased from the moment of the evacuation of the original contents. Hence it appears that caries, when no longer labouring, as heretofore, under the irritation of decomposing matter, ceases to be an opprobrium of surgery, and recovers like other inflammatory affections. In the publication before alluded to‡ I have mentioned the case of a middle-aged man with psoas abscess depending on diseased bone, in whom the sinus finally closed after months of patient perseverance with the antiseptic treatment. Since that article was written I have had another instance of success, equally gratifying, but differing in the circumstance that the disease and the recovery were both more rapid in their course. The patient was a blacksmith who had suffered four and a half months before I saw him from symptoms of ulceration of cartilage in the left elbow. These had latterly increased in severity, so as to deprive him entirely of his night's rest and of appetite. I found the region of the elbow greatly swollen, and on careful examination discovered a fluctuating point at the outer aspect of the articulation. I opened it on the antiseptic principle, the incision evidently penetrating to the joint, giving exit to a few drachms of pus. The medical gentleman under whose care he was (Dr. Macgregor of Glasgow) supervised the daily dressing with the carbolic-oil paste till the patient went to spend two or three weeks at the coast, when his wife was entrusted with it. Just two months after I opened the abscess he called to show me the limb, stating that the discharge had for at least two weeks been as little as it then was—a trifling moisture upon the paste, such as might be accounted for by the little sore caused by the incision. On applying a probe guarded with an antiseptic rag, I found that the sinus was soundly closed, while the limb was free from swelling or tenderness; and, although he had not attempted to exercise it much, the joint could already be moved through a considerable angle. Here the antiseptic principle had effected the restoration of a joint which on any other known system of treatment must have been excised.

Ordinary contused wounds are of course amenable to the same treatment as compound fractures, which are a complicated variety of them. I will content myself with mentioning a single instance of this class of cases. In April last a volunteer was discharging a rifle, when it burst, and blew back the thumb with its metacarpal bone, so that it could be bent back as on a hinge at the trapezial joint, which had evidently been opened, while all the soft parts between the metacarpal bones of the thumb and forefinger were torn through. I need not insist before my present audience on the ugly character of such an injury. My house-surgeon, Mr. Hector Cameron, applied carbolic acid to the whole raw surface, and completed the dressing as if for compound fracture. The hand remained free from pain, redness, or swelling, and, with the exception of a shallow groove, all the wound consolidated without a drop of matter, so that if it had been a clean cut, it would have been regarded as a good example of primary union. The small granulating surface soon healed, and at present a linear cicatrix alone tells of the injury he had sustained, while his thumb has all its movements and his hand a firm grasp.

If the severest forms of contused and lacerated wounds heal thus kindly under the antiseptic treatment, it is obvious that its application to simple incised wounds must be merely a matter of detail. I have devoted a good deal of attention to this class, but I have not as yet pleased myself altogether with any of the methods I have employed. I am, however, prepared to go so far as to say that a solution of carbolic acid in twenty parts of water, while a mild and cleanly application, may be relied on for destroying any septic germs that may fall upon the wound during the performance of an operation; and also that for preventing the subsequent introduction of others, the paste above described, applied as for compound fractures, gives excellent results. Thus I have had a case of strangulated inguinal hernia, in which it was necessary to take away half a pound of thickened omentum, heal without any deep-seated suppuration or any tenderness of the sac or any fever; and amputations, including one immediately below the knee, have remained absolutely free from constitutional symptoms.

Further, I have found that when the antiseptic treatment is efficiently conducted, ligatures may be safely cut short and left to be disposed of by absorption or otherwise. Should this particular branch of the subject yield all that it promises, should it turn out on further trial that when the knot is applied on the antiseptic principle, we may calculate as securely as if it were absent on the occurrence of healing without any deep-seated suppuration; the deligation of main arteries in their continuity will be deprived of the two dangers that now attend it—viz., those of secondary hæmorrhage and an unhealthy state of the wound. Further, it seems not unlikely that the present objection to tying an artery in the immediate vicinity of a large branch may be done away with; and that even the innominate, which has lately been the subject of an ingenious experiment by one of the Dublin surgeons on account of its well-known fatality under the ligature from secondary hæmorrhage, may cease to have this unhappy character, when the tissues in the vicinity of the thread, instead of becoming softened through the influence of an irritating decomposing

* As an instance of one of these exceptional cases, I may mention that of an abscess in the vicinity of the colon, and afterwards proved by post-mortem examination to have once communicated with it. Here the pus was extremely offensive when evacuated, and exhibited vibrios under the microscope.

† See THE LANCET of July 27th, 1867. ‡ Ibid.

substance, are left at liberty to consolidate firmly near an unoffending though foreign body.

It would carry me far beyond the limited time which, by the rules of the Association, is alone at my disposal, were I to enter into the various applications of the antiseptic principle in the several special departments of surgery.

There is, however, one point more that I cannot but advert to—namely, the influence of this mode of treatment upon the general healthiness of an hospital. Previously to its introduction, the two large wards in which most of my cases of accident and of operation are treated were amongst the unhealthiest in the whole surgical division of the Glasgow Royal Infirmary, in consequence, apparently, of those wards being unfavourably placed with reference to the supply of fresh air; and I have felt ashamed, when recording the results of my practice, to have so often to allude to hospital gangrene or pyæmia. It was interesting, though melancholy, to observe that, whenever all, or nearly all, the beds contained cases with open sores, these grievous complications were pretty sure to show themselves; so that I came to welcome simple fractures, though in themselves of little interest either for myself or the students, because their presence diminished the proportion of open sores among the patients. But since the antiseptic treatment has been brought into full operation, and wounds and abscesses no longer poison the atmosphere with putrid exhalations, my wards, though in other respects under precisely the same circumstances as before, have completely changed their character; so that during the last nine months not a single instance of pyæmia, hospital gangrene, or erysipelas has occurred in them.

As there appears to be no doubt regarding the cause of this change, the importance of the fact can hardly be exaggerated.

ON IDIOCY AND ITS RELATION TO TUBERCULOSIS.

BY J. LANGDON H. DOWN, M.D. LOND.;
PHYSICIAN TO THE EARLSWOOD ASYLUM;
ASSISTANT-PHYSICIAN TO, AND LECTURER ON MATERIA MEDICA AT, THE LONDON HOSPITAL.

THE causes which have been assigned as productive of idiocy are numerous, and some have received special advocacy. Thus we are asked to believe that one of the most profound misfortunes which afflicts our race—which to a great extent blots out the characteristics of man, and approximates him to the lower animals—arises from sucking the thumb; and that if we could prevent a "fruitless sucking" idiocy would be immensely diminished, even if it did not cease to exist. Others, with more show of reason, urge the intermarriage of blood relations as the prevailing cause; and so far does a belief in the potency of this latter element permeate society that I have been often gravely asked whether intermarriage of relations is not the cause of the idiocy of three-fourths of the cases which come under my observation. No one who has had an opportunity of investigating the influences which are at work in the production of congenital mental diseases can fail to be struck with the fact that they are, for the most part, to be traced to some inherent vice of constitution in the progenitors. He will discover in the parents elements of degeneracy which must have had their share in producing the catastrophe. He will notice how by degrees the stock has deteriorated. He will be able to estimate how intemperance or sensuality leads slowly but surely to idiocy—how physical weakness of the parents culminates in the mental blight of the child.

Amongst the influences which have been regarded as connected with idiocy, very little attention has been given to that of tuberculosis, and I am not aware that any observations have been made with reference to the connexion of these two maladies.

Several writers have discussed the relations between insanity and tuberculosis, and have, I think, made it tolerably evident that there is more than an accidental connexion between them.

At the Earlswood Asylum, where the following observations have been made, the subjects of the inquiry are not likely to present an unfair proportion of tubercular idiots. Rather would they be likely to be below the average. The inmates are, for the most part, elected after great exertion, and the friends of a phthisical idiot would scarcely be likely to undertake the trouble for a manifestly short-lived child, even if the rules of the institution did not exclude it.

During the past eight years, from 1859 to 1866 inclusive, there have been 201 deaths. During this time there have been two epidemics of measles, one of scarlet fever, and two of whooping-cough, which have all added to the mortality. Moreover, a large proportion of the patients who succumbed to these epidemic diseases were those who would in all probability have eventually died of phthisis but for their intervention. Notwithstanding this circumstance there remains the fact, which my notes record, that, of the whole mortality, 39·8 is due to phthisis. To appreciate fully the meaning of these figures, it is necessary to consider the rate of mortality which rules amongst an idiot population. My notes show that, taking the last eight years, in some of which there were epidemics, while others were entirely free therefrom, the mortality presented an average of about 73·3 per 1000; whereas the mortality of the district in which the asylum is situated was about 18 per 1000.

Date.	Average population.	Gross mortality.	Deaths from phthisis.	——
1859	285¼	13	7	
1860	308¾	22	7	Epidemic of typhoid.
1861	318½	23	13	
1862	322	33	8	Epidemic of measles.
1863	344½	47	15	Epidemic of measles and scarlatina.
1864	369½	19	10	
1865	412¾	13	9	
1866	423¼	31	11	Epidemic of measles.

The statistics of London show that the deaths from phthisis constitute 115 per 1000 of the general mortality. My notes of the causes of death at Earlswood indicate that phthisis was the actual cause of death in 398 per 1000 of the general mortality. The significance, however, of this, as before observed, can only be rightly estimated by recollecting that the general mortality is four times that of an ordinary community.

It will be obvious that, in consequence of the greater readiness with which idiots succumb to epidemic or other diseases, the proportional deaths from phthisis are thereby much decreased. This element may be fully brought out by dividing the eight years; bringing together the four epidemic years, and comparing them with the four non-epidemic years. It will then be seen that during the epidemic years 1860, '62, '63, and '66, the deaths from phthisis numbered 297 per 1000 of the general mortality, or considerably more than twice the ratio which rules in London; while in the non-epidemic years 1859, '61, '64, and '65, the deaths from phthisis reached the enormous proportion of 570·58 per 1000 of the general mortality. I now propose to present a tabular view of the age and sex of those who died from phthisis.

Age.	Male.	Female.	Total.
7	1	0	1
8	1	0	1
9	1	2	3
10	3	0	3
11	2	1	3
12	3	1	4
13	6	2	8
14	5	2	7
15	1	0	1
16	4	1	5
17	2	6	8
18	4	3	7
19	8	1	9
20	7	1	8
21	6	2	8
23	2	0	2
27	1	0	1
29	1	0	1
	58	22	80

Dividing the ages into quinquennial periods, it will be observed that the greatest mortality from phthisis was from fifteen to twenty years of age.

From 5 to 10 years	...	...	...	8
,, 10 to 15 ,,	...	...	...	23
,, 15 to 20 ,,	...	...	...	38
,, 20 to 25 ,,	...	...	...	10
,, 25 to 30 ,,	...	...	...	2

The above details have reference solely to ante-mortem diagnosis, and have included only cases where the death was evidently caused by phthisis. I have, however, made an analysis of the last hundred of my post-mortem records, and I find that no fewer than 62 per cent. were subjects of tubercular deposit. There were 62 males, and tubercular deposit was found in 49 instances, or 79·03 per cent. There were 38 females, and of these, 13, or 34 per cent., were tubercular.

(To be concluded.)

IODINE INHALATION IN THE TREATMENT OF DIPHTHERIA.

BY J. WARING-CURRAN, L.K.Q.C.P.I.

To those interested in the subject of Diphtheria, the experience of a recent epidemic with which we have been visited, and the result of the treatment adopted, may not prove uninteresting nor disadvantageous.

The disease broke out sporadically on the 2nd of January, by attacking the daughter of a Coast-guardsman residing at Pevensey station. The girl had been out of health for a couple of days before advice was sought. On being visited, I remarked enlargement of the tonsils, with one of the usual membranous specks indicative of the disease developed on the left; the glands of the neck on the corresponding side were enlarged; there was no pain complained of on deglutition, but a good deal of fever. The tonsil I freely cauterised, prescribed a solution of chlorine gargle, and a dose of calomel. The following day there was an aggravation of all the symptoms, with an increase in extent of membranous deposition; the voice was husky, breath fetid, pain in deglutition, and a croupy cough. I applied a blister to the exterior of the throat, prescribed powerful tonics, and ordered brandy, wine, and beef-tea alternately, every hour. Towards evening the breathing became more complicated, blue blood began to circulate, and the girl died in a fit the ensuing morning.

On the 4th of January two additional cases occurred, one in the house adjoining the first, the other in a farmer's cottage some quarter of a mile distant, where there was no communication with the Coast-guard buildings in which the disease began. Both cases I treated in a similar manner to the first, and both died, one in a characteristic convulsion, and one passed quietly away. After an interval of several days, six new cases commenced, just as the consternation was beginning to subside, and when we had hoped the disease had left us; these I treated by local cauterisation, with nitrate of silver where it was practicable, and the inhalation of iodine in hot vinegar and sage, prescribing large quantities of wine and ammonia, strong beef-tea, and ice, and counter-irritants over the chest, as in the first three. Some of these were truly formidable cases, manifesting symptoms which, writers on the subject tell us, once evinced, are never recovered from; but all ultimately recovered, with ten others which subsequently occurred. The wives and children of the artillery-men stationed in the Martello towers in the neighbourhood in several instances became affected; some deaths happened, and the disease only yielded to treatment when the doctor in attendance, at my suggestion, altered his plan, and had recourse to the iodine inhalation, which eventually turned out as efficacious with him as with me. Of its value in this disease I speak fearlessly, and truthfully consider that many of the cases I had under my charge must assuredly have succumbed, had it not been for the service rendered by the iodine. To those to whose lot may unfortunately fall the treatment of diphtheria, I would earnestly recommend a fair and early trial of inhalation of iodine combined with sage and hot vinegar. The sage I look upon as a useful adjunct, not relying solely on the hexameter,

"Cur moriatur homo, cui crescit salvia in horto?"

but believing it possesses many sedative virtues when employed as an inhalation in throat affections.

The Admiralty, through their officer, gave every assistance, and afforded every facility in the attempts made to arrest the progress of what seemed an exceedingly virulent epidemic. The water-tanks connected with the buildings were opened and examined, and a thorough investigation made to account for the presence of the disease, but with little avail; doubtless, however, the development and diffusion of the disease depended on certain atmospheric and hygienic conditions communicable through the air or water, which, in the present instance, we were unable to determine or account for. Nevertheless, my experience in combating the epidemic has taught me that the direct influence of iodine vapour upon the morbid product, or on the portions of respiratory apparatus still unaffected, is such as either to arrest the power of advancement in the false membrane by destroying its *virus*, or by producing a thickened, consequently less susceptible, condition of the mucous lining of the tract, whereby it bestows a power of resistance against the deposit and prevents a further spread of the *materies morbi*.

The frightful mortality which attends the treatment of diphtheria, and the horror in which its presence is held by the profession generally, actuate me in trespassing on your space to recommend a remedy which I now believe, if properly and judiciously employed, together with tonics and a stimulating regimen, to be *the* remedy for the disease, and the only method of scientifically coping with it.

Bexhill, St. Leonard's, August, 1867.

ON

A CASE OF TUBERCULAR MENINGITIS.

BY H. KNOWLES, L.R.C.P. EDIN., &c.

ON the 29th of April, 1867, I was sent for to see Mr. R. B——, aged twenty-seven. I found him lying on the bed in a semi-comatose state. I could with difficulty rouse him; and, after answering a question, he would relapse into his former condition. His tongue was dry and slightly furred; skin moist; pulse 110; bowels constipated; urine scanty—sp. gr. 1034; face pale; pupils much dilated, equal; no intolerance of light. I ordered him five grains of calomel, to be followed by a saline aperient draught. To have beef-tea and milk diet. I saw him again in the evening. His pulse was 100; bowels had acted well. He was more sensible, and had had three hours' sleep. To take bicarbonate of potash, fifteen grains; iodide of potash, eight grains; camphor mixture, one ounce: every three hours.

April 30th.—I found him worse. He cannot pass his urine; pulse 112; mouth nearly closed; lower jaw fixed; great difficulty in getting him to take nourishment. His face and conjunctivæ much congested. I ordered his hair to be cut off, ice applied to the head, a large blister to the back of the neck, and eight leeches to the temples.

May 1st.—He continues much about the same, but the bowels are constipated. To have a turpentine enema.

2nd.—Continues to get worse. He has clonic spasms.

From the 3rd to the 5th of May he gradually got worse. On passing the catheter on the latter day I found the bladder empty.

6th.—He has still suppression of urine, with stertorous breathing, and is gradually sinking.

7th.—The patient died to-day at eleven P.M.

On the 8th of May I made a post-mortem examination. On removing the calvaria, I found extravasation of blood on the dura mater, and effusion of serum beneath the arachnoid. There were a few miliary tubercles lying on the upper surface of the cerebrum, about an inch to the right of the superior longitudinal sinus. On opening the lateral ventricles I observed masses of cheesy deposit adhering to both choroid plexuses, but much more connected with the left than the right. There was no deposit at the base of the brain, or in the fissure of Sylvius. The lungs were quite free from tubercular deposit. There was fatty degeneration of the heart, the walls of which were thin and flabby. The aorta and semilunar valves were healthy. On examining some of the cheesy deposit under the microscope, I found that it consisted of round and oval corpuscles, containing granules embedded in a stroma.

The somewhat remarkable features in the case were, the absence of vomiting, of irregularity or contraction of the pupils, or intolerance of light; no paralysis of the sphincter ani in the third stage; together with the absence of tubercular deposit in the lungs, and the exceptional situation of the deposit in the brain.

Barking-road, Canning-town, E., Sept. 1867.

Reviews and Notices of Books.

Uterine Disorders: their Constitutional Influence and Treatment. By HENRY G. WRIGHT, M.D., Physician to the Samaritan Hospital for Diseases of Women, &c. 8vo, pp. 268. Churchill and Sons. 1867.

WHEN Dr. Wright, many years ago, undertook the important post of physician to an hospital for the diseases peculiar to women, he tells us that he experienced great difficulty in attempting to reconcile, for practical purposes, the discrepant opinions which were entertained by others as to the pathology and treatment of uterine and ovarian affections. Like a sensible practitioner, he at once set to work to solve the difficulty. A long and laborious study of the literature of the subject has led to some very interesting and significant results; whilst a careful observation and consideration of the clinical histories afforded by the numerous cases of disease which have been daily brought under notice has led him to form very plausible opinions with regard to the comparative value of different plans of treatment. These opinions Dr. Wright has now published for the benefit of those members of the profession who have not enjoyed the same opportunities for observation which have fallen to his lot. In so doing he has done signal service. He has attempted, by a skilful use of his materials, to build up a system which shall enable the different forms of uterine disease to be diagnosed and remedied according to the accepted principles of general pathology. And by successfully accomplishing this task he has added his name to the list of those physicians and surgeons who, while cultivating methodically and with steady industry one department of medical science, have yet shown that disease, in whatever organ it may be seated, obeys but one set of laws; that special departments of practice are chiefly maintained by the caprice of the public; and that, consequently, he is the best practitioner who looks at medical science in its totality. For just as no one can be a physiologist who is not acquainted with the functions, structure, and mutual influence of every organ of the body, so no man can be truly a physician whose scientific vision has become distorted by simply contemplating disease as it exists in a limited part of the frame.

Dr. Wright divides his work into four chapters. The first he entitles, "The Historical Disorder of Uterine Pathology;" the second is devoted to "Disorders of Place;" the third, to "Disorders of Function;" and the fourth, to "Disorders of Structure."

The first chapter is particularly interesting, and it is clear that its composition has been a labour of love to the author. He evidently delights in the contemplation of the works of the Alexandrian, the Arabian, and the early European schools. Indeed, a recently translated papyrus containing a treatise on medicine, written at least a thousand years before the birth of Moses, has not escaped a careful perusal. The author, however, whose writings appear to have been most studied by Dr. Wright is Aëtius. This most industrious compiler lived at Alexandria, about 150 years before that splendid accumulation of literary treasures was ruthlessly burnt by Omar, A.D. 642. In the sixteenth book of his work Aëtius treats principally of women's diseases, devoting no less than thirty-seven chapters to the subjects of pregnancy, parturition, and suckling. "There are six chapters on various kinds of ulceration of the womb, three on abscesses, two on displacements, two on obstructed and imperforate uterus, seven on growths occurring in the vagina or uterus, and eighteen chapters on menstruation and its disorders. He has special chapters for hysteria, fibrous tumours, pelvic abscess, hæmatoma, displacements, &c., and devotes one very long chapter to inflammation of different parts of the uterus and its treatment." (p. 10.) With all this it is not surprising to find that the treatment described by Aëtius includes most of our modern appliances. He gives full directions for performing digital examinations, for using the speculum, for making medicated pessaries, and for introducing sponge tents. Not that the speculum was a novel instrument even then, for amongst the surgical appliances which have been disinterred at Pompeii, and which must therefore have been in use when that city was destroyed, A.D. 79, are two specula, of which Dr. Wright gives drawings.

In the second chapter the subject of uterine displacements is considered in all its bearings. The different versions and flexions of the womb, together with prolapsus and procidentia, all receive attention. Even now some practitioners are sceptical as to the injurious consequences which result from a retroflexed or anteflexed uterus. The patients, it is true, complain both of local pain and constitutional suffering, while they obstinately refuse to be comforted by the assertion that it is all "hysteria." But an abundant experience has long since convinced us that a displacement of the uterus is just as much an actual abnormal occurrence as is the dislocation of a joint. Replace the organ and maintain it in its natural position, and the suffering all ceases. To say that the pain and other symptoms which accompany uterine displacements are simply due to congestion or inflammation must lead to a line of treatment as absurd and mischievous as if a dislocated humerus or femur were to be treated by leechings and alterative drugs, without attempting reduction.

The third chapter is devoted to the disorders of function. Under the different headings of Menstruation, Amenorrhœa, Vicarious Menstruation, Menorrhagia, Dysmenorrhœa, and Sterility, the reader will find a fund of information. Each subject is treated systematically; but every now and then the author fixes the attention of his readers to an important point by a few incisive remarks, which are most telling. In the observations on dysmenorrhœa we are glad to find Dr. Wright recommending the use of the vapour from sedative herbs, a plan first suggested by Dr. Downing. This gentleman, who gained the Jacksonian Prize Essay on Neuralgia in 1850, has unfortunately long been crippled by severe rheumatoid arthritis. In his retirement at the Charterhouse it will doubtless afford him some little satisfaction to find that his writings are not forgotten. For our own part we believe that Dr. Downing's essay is one of the best which has ever been honoured by the College of Surgeons.

From this digression it is necessary to pass onwards to the consideration of the fourth chapter in Dr. Wright's book. In this, after showing that the natural structural changes which take place in the uterus and ovaries represent a significant difference in the order which governs throughout the accomplishment of their respective duties, he proposes a synopsis of diseases resulting from structural disorder. This is as follows:—

1. *Cacoplasia.*—Structural disease which is of systemic origin, where the blood itself is depraved, and induces a resultant local disorganisation, as in cancer and tubercle.

2. *Heteroplasia.*—Structural disease by which products in themselves natural are developed in incongruous situations, as the hair and teeth in dermoid ovarian tumours.

3. *Hyperplasia.*—Excess in the reinstatement of particular component tissues, as in fibrous tumours.

4. *Aplasia.*—Deficiency in the reinstatement of particular component tissues, as in ulceration.

This division accords pretty closely with the plan adopted in the chapter on the Disorders of Function. Thus cacoplastic changes are of systemic origin. Heteroplastic developments chiefly affect the ovaries. Hyperplasiæ and aplasiæ represent changes principally observed in the uterus.

In bringing this notice to a conclusion, we may venture to congratulate the author on the way in which he has accomplished his task. It is quite evident that no pains have been spared to produce a sound and useful treatise, and the result is all that can be desired. Moreover, there is an air of novelty

about the arrangement of the subjects which has no slight charm; while the style of the writing is that of a gentleman and scholar. The introduction of engravings into future editions may be suggested as deserving of consideration; for even a few drawings in outline prove of great service to the student, while they save many paragraphs of verbal description. As it is, the excellent woodcuts on pages 15 and 18 merely make us wish for more.

Via Medica: a Treatise on the Laws and Customs of the Medical Profession in relation especially to Principals and Assistants, with Suggestions and Advice to Students on Preliminary Education. By J. BAXTER LANGLEY, M.R.C.S., F.L.S. London: Hardwicke.

MR. LANGLEY in this work has supplied a desideratum which has been long felt. There has hitherto been no volume of reference in relation to the laws and customs which prevail in respect of principals and assistants. Mr. Langley enters into this subject fully, and discusses in several chapters the duties and position of principals and of assistants. He points out clearly the legal and business relations of the parties, their duties in the surgery, and finishes with a chapter on Preliminary Studies. It will thus be seen that the author takes a very comprehensive view of the subject, and we can commend the manner in which he has treated the entire matter. It is a work which should be in the hands of every principal and assistant. We shall on a future occasion discuss some of the views advanced by Mr. Langley respecting the education of assistants.

Epilepsy and its Cure. By GEORGE BEAMAN, M.D., F.R.C.S., &c. pp. 32. London: Renshaw.

IN this *brochure* Dr. Beaman has adduced several cases of a striking character to prove that epilepsy, even of the most intractable kind, can be successfully treated by a judicious combination of bromide of potassium, lactucarium, and occasionally the addition of lupuline. The evidence adduced is of such a character as to demand the attention of the practitioner. There is no attempt on the part of the author to dogmatise or theorise. He simply relies upon facts which have come under his own observation.

THE

RESULT OF SANITARY WORKS IN ENGLAND.*

No. II.

ALL the class of *contagious diseases* was carefully investigated by Dr. Buchanan. *Small-pox* having been variously influenced by another set of conditions, whose effect cannot be eliminated; and *typhus fever* having scarcely occurred in any of the towns except during the wholly anomalous epidemic of 1847-48, did not admit of profitable consideration. "With regard to others of the contagious diseases," Dr. Buchanan remarks, "great caution is needed in coming to any present conclusion. For it is not by single years that the intensity of these diseases can be measured, nor even by comparing one cycle of their prevalence with another, but by taking several such cycles both before and after the operation of the sanitary works the influence of which it is wished to ascertain. The time has not yet arrived for forming an accurate estimate of the effect of sewerage, water-supply, and the like upon measles, scarlatina, and whooping-cough, inasmuch as epidemics of these diseases may revolve in long periods; and the following inferences must be taken, subject to correction by longer experience."

Measles has appeared, "with a good deal of approach to constancy, to undergo reduction in those towns where the sanitary works have removed to a pretty complete extent serious pre-existing organic impurity of air." The disease has not been affected by the introduction of better drinking water, "but some connexion appears probable between reduction of measles and diminished density of population." *Whooping-cough*, as measles, would appear to have declined with some approach to regularity where the lodgment of the people has been improved, but no other sanitary measure seems to have exercised any effect over the prevalence of the malady. Of *scarlatina*, Dr. Buchanan states that "after careful analysis of every condition, absolutely nothing can be observed coincident with the rise and fall of this disease in various towns." He adds, however, that "if South Wales be excluded, which has latterly been swept by a scarlatina epidemic that no sanitary influence has been able to resist, there does appear some probable connexion between reduced prevalence of scarlatina and diminished crowding in houses." *Diphtheria*, as a rule, has sprung up in an epidemic form after the completion or during the carrying out of the various sanitary works in the different towns, and together with the epidemic prevalence of this malady there has been an increased mortality.

The results of Dr. Buchanan's investigation with reference to the diseases named in the previous paragraphs are such as might have been predicated. They form, however, not the least important portion of his report. They serve to show the need for a differentiation in sanitary measures, which must constitute the next great step in sanitary progress. The destructive contagious diseases, scarlatina, measles, and diphtheria, are but little, if at all, influenced by general sanitary measures, except in so far as these tend to diminish overcrowding and promote cleanliness of house and person, and thus limit the liability to contagion. Observation tends still more and more to the conclusion that the restraint of these maladies must be, as in the case of small-pox, by some special means directed to the special end. What these means may be is not yet known, but the first step to discovering them is the recognition of the fact of their necessity, if the end in view is to be secured.

With respect to typhoid fever, diarrhœa, and cholera (see summary table, THE LANCET, Aug. 31st, p. 276), the positive conclusions arrived at by Dr. Buchanan are in the highest degree encouraging.

Typhoid fever.—The extent of reduction from the previously existing death-rate from this disease is shown in the table referred to.

"Many of the public improvements," writes Dr. Buchanan, "have coincided with reduction of typhoid. Though not with absolute constancy, drying of the soil of a town and reduction in the crowding of houses have been followed by reduction of fever. Much more important appears to be the substitution of an ample supply of good water for a scanty and impure supply: other things being equal, the towns in which this substitution has been completed have made most improvement. Merthyr is a conspicuous instance of a town where, before any other important change had been made, typhoid fell to a notable extent as soon as inspection and cleansing were adopted. It is, however, the purification of the atmosphere from decomposing organic matters that has been most uniformly followed by a fall in the prevalence of typhoid. And this has occurred equally whether the purification has been brought about by the abolition of cesspools or by draining and drying 'middens.' Apparent exceptions, indeed, are found in certain towns at the bottom of the foregoing list (disregarding Penzance, where the drainage works have just got into operation)—viz., Rugby and Carlisle, where the reduction has been of slight amount, and Chelmsford and Worthing, where there has been more or less increase of fever. But in these four towns, and in no others (for Leicester need not be considered), sewage is received into pumping works at the outfall in such a way that sewer gases are necessarily much confined in the pipes. In the case of Worthing the defect of the outfall arrangement was most serious; and, in the absence of other exits, sewer gases had demonstrably been forced into houses, and outbreaks of typhoid had occurred as the demonstrable result thereof. In the other towns, though to an inferior degree, there were facilities for

* Report by Dr. Buchanan on the Results which have hitherto been gained in various parts of England by Works and Regulations designed to promote Public Health. ("Ninth Report of the Medical Officer of the Privy Council." pp. 41—308.)

the same accident occurring. So that it appears that the four towns where fever has not been greatly reduced are so far from constituting an exception to the rule—that removal of organic impurity from the air has been followed by reduction of typhoid; that they even add strongly to the presumption that the rule is absolute and universal."

Diarrhœa.—The declension or not of the mortality from diarrhœa follows somewhat closely that observed of typhoid fever. In four or five instances, however, a conspicuous reduction of typhoid fever coincides with an increase of diarrhœa. "To some extent," writes Dr. Buchanan, "this may be accounted for by the lax use of terms in the death registers of certain towns, more particularly in the case of young children, who are the chief contributors to the mortality from diarrhœa. But there remain sufficiently obvious differences between the fluctuations of mortality from typhoid and from diarrhœa to make it probable that other influences than those affecting fever have operated on the prevalence of epidemic diarrhœa."

Cholera.—Epidemics of this disease "*have been rendered practically harmless in the towns examined.*" This is strikingly shown in the table already referred to. As a rule, the epidemic of 1849 found the towns entirely unprepared; the attack of 1854 came while works of drainage or water-supply were in progress; and that of 1866 found them in conditions of comparative cleanliness and purity.

Phthisis.—Dr. Buchanan's investigation has suggested so novel and important a conclusion in respect of this disease, that Mr. Simon proposes to make it the subject of a special inquiry. Under the term "phthisis" Dr. Buchanan includes all deaths registered as "consumption." In certain of the towns examined this disease has undergone a positive diminution, the amount of reduction being frequently very considerable, from a third to a half of the whole mortality from this cause having been removed; in other towns the malady was stationary, or even increased.

"The sanitary improvement," Dr. Buchanan writes, "that coincides with decrease of phthisis in town after town, with least frequent exception, is the drying of the ground on which the town stands. As this result has not always been specially aimed at by those who executed sewerage works, so it is very difficult to get a measure of the degree to which it has been effected. Referring for details to the account of each town, the amount of drying of subsoil is stated below in as accurate general terms as may be. Here the change of mortality is exhibited separately for females of the middle period of life, and figures representing reduction or increase are given per cent. of the death rate formerly prevailing:—

Town.	Previous phthisis death-rate (all ages) per 10,000 annually.	Change in phthisis death-rate.		Influence of sewerage works on subsoil.
		In total.	In females 15-55.	
Salisbury ...	44½	—49 p.c.	?	Much drying.
Ely	32	—47 p.c.	?	Much drying.
Rugby	28½	—43 p.c.	—48 p.c.	Some drying.
Banbury ...	26½	—41 p.c.	—36 p.c.	Much drying.
Worthing ...	30½	—36 p.c.	—41 p.c.	Some drying.
Macclesfield	51½	—31 p.c.	—22 p.c.	Much drying.
Leicester ...	43½	—32 p.c.	—16 p.c.	Drying.
Newport ...	37	—32 p.c.	—13 p.c.	Local drying.
Cheltenham	28½	—26 p.c.	—25 p.c.	Some drying.
Bristol	33½	—22 p.c.	—18 p.c.	Some drying.
Dover.....	26½	—20 p.c.	—18 p.c.	Local drying.
Warwick ...	40	—19 p.c.	—10 p.c.	Some drying.
Croydon ...	*	—17 p.c.	?	Much drying.
Cardiff	34½	—17 p.c.	?	Much drying.
Merthyr ...	38½	—11 p.c.	—12 p.c.	Some recent drying.
Stratford ...	26½	— 1 p.c.	— 4 p.c.	Some local drying.
Penzance ...	30½	— 5 p.c.	+ 0	No change.
Brynmawr...	28½	+ 6 p.c.	— 8 p.c.	No notable change.
Morpeth ...	30½	— 8 p.c.	+ 12 p.c.	No change.
Chelmsford	32½	+ 0	+ 11 p.c.	Slight drying.
Penrith	39½	— 5 p.c.	+ 27 p.c.	No change.
Ashby	25½	+ 19 p.c.	—10 p.c.	Some drying.
Carlisle	32	+ 10 p.c.	+ 11 p.c.	Drying, with local defects.
Alnwick ...	28½	+ 20 p.c.	+ 36 p.c.	No drying."

The effect of sewerage works on subsoil water was judged of by the facts of shallow wells having dried, or the level of the water in them becoming permanently lowered; the cessation of floodings of cellars from ground-water, and the statements of surveyors. It is seen that there is a large and pretty constant connexion between the fluctuations of phthisis and the changes effected in the subsoil water so estimated, and that the two have varied very closely to the same degree. Those towns, Dr. Buchanan remarks, have conspicuously improved in which, as at Salisbury, special arrangements have been made for drying their subsoil. He adds:—

"To the general preciseness of connexion between phthisis and subsoil water there are indeed only four exceptions, which, curiously, are in the case of four towns already grouped together; only in this case two of them are an exception in one direction, and two of them in the opposite. Carlisle and Chelmsford appear to have got their ground-water removed more than some towns that stand better in reduction of phthisis; and Worthing and Rugby seem to have had more influence exerted on phthisis than in other towns where the removal of subsoil water was more complete. Perhaps it had better be confessed that these are exceptions to the rule of subsidence of phthisis after drying of subsoil; or the suggestion may be allowed that the nature of the change in climatic conditions produced by drying the subsoil of a locality is not everywhere the same (the environs of Chelmsford, for example, which got flooded through the action of a mill-dam); and that different degrees of effect may have been produced on consumption."

Dr. Buchanan states that the removal of excreta and house-slop by sewerage does not seem to have operated in reducing the amount of the death-rate by consumption. The order of the phthisis list of towns differs largely from the list given for typhoid fever.

Finally, Dr. Buchanan examines the influence exercised upon *diseases of the lungs* other than consumption, by sanitary measures, and concludes that they have not undergone any regular reduction in their amount in the several towns.

Foreign Gleanings.

PROF. LIEBIG'S ARTIFICIAL MOTHER'S MILK.

A WARM debate has been carried on between the German professor and M. Poggiale before the Academy of Medicine of Paris. M. Liebig has written to the president to defend his milk from the strictures of M. Poggiale; and the latter, at the meeting of July 23rd, answered the arguments, concluding his speech thus: "I find great fault with the artificial milk because it differs from mother's and cow's milk in its physical properties and its composition; because its chemical preparation requires several operations, great care, and skill; because M. Liebig has substituted glucose for the fatty matter; and because cow's milk, when mother's milk cannot be obtained, is incomparably better than the proposed artificial milk." Many members expressed considerable regret that M. Liebiig's name was extensively used in placards and advertisements in connexion with this newly proposed milk.

POWER OF ABSORPTION OF WOUNDS AND ABSCESSES.

M. Demarquay has submitted to the Academy of Medicine of Paris a series of experiments on this subject. He placed upon wounds and into accidental cavities aqueous solutions of iodide of potassium of the strength of 10 per cent. After from six to thirty minutes iodine was found in the urine, and especially in the saliva. The author considers that ulcers and abscesses absorb also noxious gases both from the atmosphere and those formed by the decomposition of blood and pus. He, therefore, advocates the protection of wounds and abscesses from the surrounding air, dressing them with glycerine, alcohol, or disinfectants; and surrounding patients with as pure an atmosphere as possible.

EXTERNAL URETHROTOMY WITHOUT DIRECTOR.

M. Letenneur (of Nantes) publishes, in the *Journal de Méd. de l'Ouest*, a case in which this operation was performed with success for complete traumatic urethral obliteration. The author refers to other surgeons who also recommend, in special cases, this operative measure; as MM. Verneuil, Sédillot, Bourguet, Gosselin, Tillaux, Carbonell, and Demarquay.

MATTEUCCI'S LATEST RESEARCHES.

This eminent philosopher has of late studied the secondary electro-motor power of nerves. "It is well known," he says, "that bodies highly gifted with polarity cause, only for a few minutes, a deviation of 25 or 30 degrees of the galvanometer. But with the sciatic nerve of a chicken, a rabbit, or a ewe, 90 degrees are obtained; and the deviation lasts several hours to the extent of 25 or 30 degrees. This secondary electro-motor power is, however, greater towards the positive than the negative pole. Humboldt has said that alkalies increase the excitability of the nerves, and that acids diminish it. This peculiarity I have found correct by several experiments; hence we see that the presence of alkalies in the economy promotes the chemical acts of nutrition. Without indulging too much in hypothesis, we may believe that nervous plexuses covered by an alkaline layer, after electrolysis, are placed in a more favourable condition for muscular contraction and respiration than other plexuses connected with acid solutions."

THE FATE OF DISCOVERERS.

M. Louis Hébert, in an article on the chemical productions exhibited at the Paris grand display, speaks of the manner of obtaining carbonate of soda on a large scale, by exposing to a sufficient heat a mixture of sulphate of soda, carbonate of lime, and charcoal. This process was the secret of a medical man named Leblanc. Before the revolution of 1789 he had patented his discovery; but the Republican Government having called upon everyone to disclose all secrets which might be of use to the nation at large, Leblanc gave up his. Large fortunes were made by various manufacturers; but the discoverer, instead of reaping any benefit, fell some years afterwards into such difficulties that in despair he blew out his brains. Another discovery, more directly connected with medicine, was just as poorly rewarded. Courtois, who in 1812 discovered iodine, and who died about thirty years ago, left his widow in the most straitened circumstances.

SULPHURET OF CALCIUM IN SCABIES.

Vleminckx uses in scabies the sulphuret in the following manner:—Quick lime, one pound; spring water, a sufficiency; sulphur, two pounds; water, twenty pounds. Boil to twelve pounds. The patient is placed in a tepid bath for half an hour; then, on leaving it, all the parts affected are rubbed with a piece of flannel dipped in this solution. The patient is then placed in a second tepid bath for another half hour. The same measures are repeated the next day, and the itch is conquered. Eczema may follow this mode of proceeding, and this complication may take several days to control.

A NEW MODE OF VACCINATING RAPIDLY.

Dr. Carenzi, of Turin, has had a silver finger-ring constructed, to which is fixed a little capsule of the same metal. The operator places this ring on the first phalanx of his left thumb, and the capsule being filled with lymph obtained from capillary tubes, he goes on dipping his lancet and vaccinates with great rapidity.

A GERMAN MODE OF SETTLING THE MERCURIAL QUESTION.

A committee, composed of Professors Hebra, Sigmund, and Zeissel, and the medical councillors Berut, Fuchs, and Melzer, has been officially appointed in Vienna to come to a final settlement on the non-mercurial treatment of syphilis, which has for many years been put in practice by Dr. Hermann at the Wieden Hospital. The committee have already met several times. It will be interesting to learn the verdict.

STARCH INJECTIONS IN GONORRHŒA.

Bismuth has of late been largely employed with a view of obtaining a deposit of the powder into the follicles of the urethra. M. Luc, a military surgeon, proposes a cheaper injection of the same character—viz., finely-powdered starch mixed with lukewarm water, so as to obtain a fluid of the substance of cream, but thin enough to allow of injection. M. Luc has been very successful with this compound, either in painless discharges, or where the inflammatory stage was over.

CONCUSSION OF THE BRAIN.

In a paper presented to the Academy of Sciences of Paris, M. Laugier contends that the effects of concussion do not extend to the whole encephalic mass. According to the author, these effects are confined to the hemispheres, or perhaps only to the grey matter.

SPOON-FEEDING.

M. Denis Dumont lately brought an important essay before the Academy of Medicine of Paris "On the Influence of Spoon-feeding upon the Mortality of Children," in the course of which he states that, with children brought up by hand, the mortality is 30 per cent.; whilst it is only 10 per cent. with those who have the advantage of breast milk.

SORE NIPPLES.

Dr. Blacquières says, in the *Journal des Connaissances Médicales*, that three or four applications of the following compound cure this complaint:—Cocoa butter, 150 grains; extract of rhatany, ten grains.

ITCH IN DELICATE SKINS.

Hebra uses the following compound:—Petroleum and spirit, of each one ounce; balsam of Peru, one fluid drachm; oil of rosemary and lavender, of each fifteen minims.

SEWAGE OF TOWNS.

THERE is not wanting abundant evidence that the time is approaching when the question, how to dispose of the excremental matters and the sullage generally, from our towns, small as well as great, inland and seaside, will have to be taken in hand very seriously, and dealt with on the broad ground of its relation to the public health. The growth of urban populations is so surprisingly rapid that systems of drainage which were thought to be complete and satisfactory yesterday, are looked upon doubtfully to-day, and will probably stand condemned and be superseded to-morrow as having failed to protect the public from nuisances they were warranted to remove.

At this time of year, when the daily journals have space to admit such communications, correspondents seize the opportunity of telling how such and such a town, having, a few years ago, and under the advice of eminent engineers, gone to great expense in carrying out a system of drainage, now finds that the sewage is either poisoning the water-supply, or that it is being brought back by currents or tides under the very eyes and noses of the inhabitants, or that malaria has been generated by its distribution upon land adjacent to the town. The seaside resorts especially figure in these post-parliamentary communications; and, assuming the veracity of the statements made, most of these towns seem to have spent a great deal of money upon what has turned out a very bad bargain. The letter of "A," in *The Times* of Monday last, speaks of Hastings, (St. Leonards?), Eastbourne, and Brighton, as places where the sewage is carried by conduits or pipes out into the sea to a distance which, it had been assumed, would ensure its complete removal by tidal influence far out into the depths of the ocean; yet, judging by what *The Times'* correspondent states, as well as from our own knowledge of the condition of the sea at Brighton, for example, the effect of the sewage upon the water area in the vicinity of the towns is disagreeably perceptible. It is said that the water used for the supply of Brill's baths at Brighton is now brought from Cliftonville, beyond Hove, a distance of two miles, in consequence of the defilement of the sea within the precincts of the town. At Torquay, the disposal of the sewage is the cause of much anxiety: the outfall pipes, which are carried a long way out to the sea, get choked up with sand; and the sewage leaks out at the joints of the iron pipes, and is floated back to the beach again. In spite of all that engineers may say about outward currents, the fact remains that the tendency of the ocean tides is to drift floating substances ashore; and the probability is that a large proportion of the fæcal matter cast into the sea at the drainage outlets of seaside towns never goes far from home, while the residue is deposited at other points on the coast, endangering the public health in any case. The problem of effectual sewage-disposal has not yet been satisfactorily solved by any of the seaside towns, unless, in-

deed, the system adopted at West Worthing really accomplishes all that it is said to do. There the sullage is strained through portable filters fitted into chambers communicating with the sewers, so as to retain the solid matter, and allow only the residual fluid to escape into the sea; the solid part being retained in the filter, is removed therein daily from the sewer "without causing any nuisance whatever, the filter being impervious to the odour of the sullage within." Strict inquiry should be made as to the operation of this plan, because, if it works well in a sanitary point of view at West Worthing, it ought to be tried at Brighton and other places which are now experiencing a complete break-down of the systems of drainage at present in force. The pounds, shillings, and pence side of the drainage question has hitherto occupied undue attention: the first consideration should be, how to remove the obnoxious matter clean out of the way with the least possible risk of endangering health; and whether the material can be turned to profitable account, either by reverting to the custom of the Mosaic dispensation or otherwise, ought, in our judgment, to be entirely subsidiary to the essential object of attainment.

The proceedings at the Sewage Congress held at Leamington last October, as is manifest from the report thereon recently published, showed clearly the difficulties involved in any attempt to deal with sewage from what is called the "economical" point of view. The advocates of the "dry-earth" system contended, on the one hand, that the dilution of sewage destroys, or at any rate reduces to a minimum, its value for agricultural purposes; while the champions of the "irrigation" system were confident that their plan was financially unassailable, but that the dry system could not possibly pay. On one point both sides were agreed—namely, that the practice of pouring sewage into rivers is most objectionable, and ought to be prevented; but no agreement could be come to for the adoption of a uniform plan of dealing with sewage, the final conclusion of the Congress being—

"That the system of irrigation, when carried out in a scientific manner, removes the difficulty which arises from the present noxious plan of polluting the rivers of England; but that there are circumstances in which other systems may be applicable; and that this Congress considers that no system can be laid down which shall be suited to all towns."

Dr. Hawksley, who has paid much attention to the subject, entered into a very elaborate exposition, showing the great superiority of the dry system; and quoted authorities for stating that the relative values of fluid and solid excreta were as 10 to 4. From this, would it not appear that the West Worthing plan retains the least valuable portion of the sewage?

Mr. Heron, the town clerk of Manchester, took credit for the authorities of that city that they had resisted the influence of the "watercloset mania." About 100,000 tons of night-soil and ashes, from upwards of 36,000 ash-pits, are removed annually by railway into Yorkshire, Nottinghamshire, and Lincolnshire, at a cost (fluctuating according to distance) of from 3*s.* 6*d.* to 7*s.* 6*d.* per ton. The whole expense incurred for one year amounted to £16,130, which was reduced by the sale of manure to £6644. Mr. Heron stated that if all the houses in Manchester had convenient and dry ash-pits (not cesspools), the sanitary condition of the city would be far better than if all had waterclosets. He estimated that to convert the existing privies and ash-pits into waterclosets would cost £500,000; and, if it were required to dispose of the sewage by irrigation, at least 7500 acres of land would have to be purchased to carry out the system; and, lastly, the water required would greatly exceed the maximum supply obtainable from present sources.

Mr. Menzies advocated the separation of sewage from rainfall, not only because the great dilution of sewage destroys its agricultural value, but also because the rainfall ought to be available for the replenishment of the rivers.

Mr. Macfarlane stated that in Glasgow a plan had been adopted, extending to at least 80,000 inhabitants, of removing once within every twenty-four hours all excrementitious matters before decomposition takes place. Neither water nor earth is used, but the soil is just collected in receivers, and the dustman comes round every morning and takes it away so cleanly and inoffensively that no pollution whatever arises. Mr. Macfarlane admitted the theoretical value of earth-closets, but considered them too complicated for the working classes.

Mr. James described the working of the earth-closet system on Baron Rothschild's estate at Halton, where it had then been for six months in operation. Mr. Moule's self-acting closets are used, and by these a pound and a half of dried earth is thrown in the moment a person rises from the seat. The closets established served 800 people; and cesspools of brick, to be cleared out once in three months or at longer intervals, have been adopted. The soil, when removed, is taken to the earth-shed and re-dried, to be again passed through the closet; and it is said that this operation may be repeated six or eight times, with cumulative power of fertilisation, and obvious economy of earth and transport. A small kiln is necessary for winter drying, the cost of which does not exceed £20. It is vouched that the whole operation from first to last is carried through without the least unpleasantness, and the cottagers express themselves grateful for such an addition to their health and comfort, the village having now no foul smells, nor are the ditches any longer filled with liquid filth.

Mr. Hitchman, the secretary to the Congress, maintained that it would be just as well that the sewage should continue to go into the rivers as that it should be intercepted from them and then pumped on to the land, to poison the people by extending a decomposition that leads to malaria. He advocated the removal of waterclosets and the substitution of dry earth-closets, the authorities of towns being required to provide suitable kilns for drying and properly preparing the earth, and sheds for storing it. Mr. Garnet, of Quernmore-park, near Lancaster, has been carrying out an extensive experiment on the dry-earth system. At an expenditure of £300 he has erected a kiln and store-shed, and organised a staff of men, cart and horses, for delivering the earth and taking away the refuse matter from about fifty open privies, which were public nuisances and most unwholesome, and which have now become clean, perfectly sweet, and wholesome. It was believed that the authorities of Lancaster would eventually adopt this system throughout the town.

Dr. Carpenter (Croydon) and Mr. Latham admitted the excellence of the earth-closet system, particularly as applicable to country villages; but held that, in towns with large numbers of small owners, it could not be efficiently worked. The irrigation works at Croydon were declared to be a financial success, although some doubts were expressed on the point, as well as on the alleged freedom from injurious smells of the works.

Dr. B. W. Richardson mentioned an instance of typhoid breaking out simultaneouly with the distribution of sewage. He urged that if sewage be distributed at all, it should be far removed from a town, where there could be no contamination; "and it should be distributed in such a way that the ground itself should be one of Mr. Moule's earth-closets on a large scale."

We observe that at a meeting of the Sheffield Town Council on the 11th inst. a motion was adopted "That the borough surveyor and chief sanitary inspector be instructed to take into consideration the best mode of introducing dry closets for general use in the borough, instead of the present arrangement of ashpits, cesspools, and waterclosets; and to report thereon to the Council."

The present state of our knowledge, derived from experience of the working either of sewage irrigation or of the dry-earth system in this country, is as yet too limited for a definite judgment to be pronounced on either side; but the practice of pouring sewage into rivers or into the sea, without the adoption of measures to render it comparatively innocuous, ought to be put a stop to at once.

A MONUMENT TO BE ERECTED TO THE MEMORY OF VELPEAU.—The Medical Society of "Indre et Loire" have just decided that a subscription should be opened to erect a statue of Velpeau in Tours, his native town.

KIDDERMINSTER INFIRMARY.—The late John Crane, Esq., of Habberley, near Kidderminster, has left £400, free of legacy duty, to this institution. The carpet-weavers of the town have lately handed to the treasurer, £109 12*s.* 7*d.*, being the proceeds of a fête and picnic held in aid of its funds. This is honourable to the working men, and worthy of imitation in other places.

THE

ANALYTICAL SANITARY COMMISSION.

No. II.

ON CLARET AND BURGUNDY.

RESULTS OF THE CHEMICAL ANALYSIS OF THIRTY-NINE SAMPLES OF RED WINES, INCLUDING CLARETS, BURGUNDIES, HUNGARIAN AND GREEK WINES.

THE interest and importance of the subjoined analyses will be enhanced in some degree by the following quotations from the able report of Mr. Ogilvie referred to in the first portion of this article:—

"The value or price of wines varies according to certain qualities or characteristics for which each description is peculiar. Thus the *Burgundy* and *Bordeaux* wines are appreciated for their fineness of flavour and *bouquet;* while the qualities sought in the wines of the Midi are body, colour, and strength. The proportions of all these are found to differ considerably, not only in the wines of different districts, but even in those produced at different times on the same spot and from the same plant.

"The grape is always richest and most abundant in a dry, stony soil, where there is intense heat and but very little moisture. Rain fills the fruit with watery juice, which yields but a very scanty supply of sugar, and the wine made from such fruit is devoid of taste or strength. On the sunny sides of mountains, amidst the boulders and *débris* washed down, the vine strikes its roots through the scanty surface-soil to the depth of five or six feet, amid the crevices and fissures of the rocks, in search of moisture and aliment; while it spreads its branches and leaves to be warmed in the noon-day heat and bathed in the dews of evening; and in proportion to the intensity of the sun's heat will be the ripeness of the fruit. Agreeably to these laws of nature, we find that the plains in the northern and western parts of France produce light and generally inferior wines, the strength of which varies from 12 to 16 per cent. of proof spirit. The finest of the Bordeaux wines do not exceed that strength; but on the sides of the mountain ranges which run down through the east and south of France, from Dijon to the Pyrenees, and at the foot of which flow the waters of the Saone, the Rhone, and the Mediterranean, we find the vine in the greatest abundance and luxuriance, and its fruit obtaining the greatest maturity, producing the greatest quantity of sugar, and consequently wine of the greatest strength. First in this district are the Burgundy wines, which are stronger than those of more northerly parts, but which, in their turn, yield in that respect to those produced further south; and in the southern extremity of the department of the Eastern Pyrenees, where the sun pours down an almost tropical heat, and where the sea breezes come charged with moisture, all the requisites for the full development of the grape seem to be concentrated, and, as might be expected, the wines produced here are extremely strong. Such are the natural phenomena upon which, in the first instance, the strength of wine is dependent; but the effect of these may be modified to the extent to which they are allowed to operate. In the natural process of ripening, as the formation of sugar progresses, the watery particles of the juice dry up or evaporate; and therefore upon the period and stage of ripeness at which the grapes are gathered will to a great degree depend the quantity of sugar in the fruit and spirit in the wine.

"The wines of *Bordeaux*, though far from strong, possess the peculiar property—in which they are said to differ from all other French wines—of not only withstanding the effect of the sea without deterioration, but of being actually improved by long voyages, for which reason they are highly esteemed in India, the United States, and South America. They also decrease in strength with age, which is not the case with other French wines."

Of the justly celebrated and important wines produced at the foot and on the sides of the mountains called the "Côtes d'Or," situated in the Eastern centre of France, Mr. Ogilvie writes: "These wines, known in England under the general denomination of *Burgundy*, include some of the finest and most costly kinds produced in France. Their especial qualities are fine flavour, body, and strength. On some estates in this district it is the practice to add a quantity of sugar to the juice of the grapes."

The wines grown in the department of the Saone and Loire, and the Rhone, among the mountains to the south of the Burgundy country, are denominated *Maconnais* and *Beaujolais*, from the towns of Macon and Beaujeu. "These wines show a considerable strength, particularly those grown on the mountains."

Medoc and *St. Emilion* represent two of the qualities of the wine produced in the Bordeaux district. "These wines are more celebrated for their fine and delicate flavour and *bouquet* than for their alcoholic strength."

"The wines of *St. Estephe* have good flavour and *bouquet*, and keep well. They are reckoned wholesome, and are recommended as good tonics."

The St. Emilion district is situated to the east of Bordeaux. "The *St. Emilion* wines have been renowned from a very early period, and were well known and highly esteemed as far back as the fourteenth century."

Composition of 1000 parts.

CLARETS.

1st Sample.

Bordeaux.—Purchased of Messrs. Brett and Co., 30, Regent-street, Piccadilly-circus. Price 12*s.* per dozen.

Specific gravity, 996·7. Absolute alcohol, 87·54 per 1000 grains of wine. Volatile acids, chiefly *acetic*, 0·64. Fixed acids, chiefly *tartaric*, 10·32. Anhydrous *phosphoric acid*, 0·54. Grape sugar, 4·27. Cane sugar, or other matter convertible into cane sugar, none. Albuminous matter, 1·35. Total solids, 23·76. Ash, 2·57.

Full body and colour, not acid, rough, astringent, and sound.

2nd Sample.

Claret.—Purchased of Messrs. Fearon and Long, 94, Holborn-hill. 12*s.* per dozen.

Specific gravity, 996·3. Alcohol, 94·11. Acetic acid, 0·99. Tartaric acid, 10·68. Phosphoric acid, 0·48. Grape sugar, 2·09. Cane sugar, or other matter convertible into grape sugar, 3·54. Albuminous matter, 1·11. Total solids, 20·24. Ash, 2·37.

Of a deep colour and rather full flavour; a little styptic, but of fair alcoholic strength.

3rd Sample.

Vin Ordinaire.—Purchased of the European and Colonial Wine Company, 122, Pall-mall. 15*s.* per dozen.

Specific gravity, 995·0. Alcohol, 98·61. Acetic acid, 1·48. Tartaric acid, 9·27. Phosphoric acid, 0·361. Grape sugar, 4·29. Cane sugar, or other matter convertible into cane sugar, 1·52. Albuminous matter, 1·08. Total solids, 22·68. Ash, 2·40.

Mild, of a full body and deep colour, strong, slightly styptic, but a pleasant wine.

4th Sample.

Claret.—Purchased of Messrs. Ingram and Co., 35, Bucklersbury, E.C. 18*s.* per dozen.

Specific gravity, 995·60. Alcohol, 89·97. Acetic acid, 1·02. Tartaric acid, 11·65. Phosphoric acid, 0·401. Grape sugar, 5·46. Cane sugar, or other matter convertible into cane sugar, 0·81. Albuminous matter, 1·26. Total solids, 18·68. Ash, 1·95.

Rather deep coloured; a little sharp, but still mild, fruity, and of superior flavour. A very good and cheap wine.

5th Sample.

Claret, 2.—Purchased of The Times Wine Company, 71, Bishopsgate-street, E.C. 16*s.* per dozen.
Specific gravity, 993·4. Alcohol, 113·7. Acetic acid, 0·92. Tartaric acid, 11·21. Phosphoric acid, 0·28. Grape sugar, 1·47. Cane sugar, or other matter convertible into grape sugar, 2·99. Albuminous matter, 1·12. Total solids, 21·96. Ash, 2·35.
Of medium colour and body; of considerable alcoholic strength, but mild, clean taste, and delicate flavour, with some bouquet.

6th Sample.

Claret.—Purchased of the Victoria Wine Company, 16, Mark-lane. 15*s.* per dozen.
Specific gravity, 996·3. Alcohol, 79·44. Acetic acid, 0·60. Tartaric acid, 11·56. Phosphoric acid, 0·316. Grape sugar, 3·54. Cane sugar, or other matter convertible into grape sugar, 0·94. Albuminous matter, 1·34. Total solids, 19·58. Ash, 1·93.
Of medium colour, and no great body.

7th Sample.

St. Estephe.—Purchased of Mr. Watson, 72 and 73, Great Russell-street, W.C. 18*s.* per dozen.
Specific gravity, 996·65. Alcohol, 79·06. Acetic acid, 0·56. Tartaric acid, 11·65. Phosphoric acid, 0·404. Grape sugar, 5·13. Cane sugar, or other matter convertible into grape sugar, 0·76. Albuminous matter, 0·68. Total solids, 18·02. Ash, 2·22.
Mild, sound, moderately astringent, and of pleasant flavour.

8th Sample.

Castle C. Claret, Bordeaux.—Purchased of Messrs. Gilbey and Co., 357, Oxford-street, W. 18*s.* per dozen.
Specific gravity, 994·9. Alcohol, 95·65. Acetic acid, 0·95. Tartaric acid, 10·41. Phosphoric acid, 0·358. Grape sugar, 4·38. Cane sugar, or other matter convertible into grape sugar, 0·78. Albuminous matter, 1·05. Total solids, 22·10. Ash, 2·16.
Of full body and flavour; astringent, and of fair alcoholic strength.

9th Sample.

St. Julien.—Purchased of the European and Colonial Wine Company, 122, Pall-mall. 24*s.* per dozen.
Specific gravity, 997·0. Alcohol, 80·86. Acetic acid, 0·78. Tartaric acid, 10·59. Phosphoric acid, 0·286. Grape sugar, 4·20. Cane sugar, or other matter convertible into grape sugar, 1·18. Albuminous matter, 1·11. Total solids, 21·60. Ash, 2·24.
A mild wine of no great strength, a little bitter, but sound and of pleasant flavour.

10th Sample.

St. Julien.—Purchased of Messrs. Hedges and Butler, 155, Regent-street, W. 24*s.* per dozen.
Specific gravity, 997·2. Alcohol, 79·40. Acetic acid, 1·13. Tartaric acid, 10·59. Phosphoric acid, 0·404. Grape sugar, 4·60. Cane sugar, or other matter convertible into grape sugar, 0·72. Albuminous matter, 1·26. Total solids, 21·40. Ash, 2·32.
Of rather a deep colour, somewhat sharp, astringent, of no great alcoholic strength, but of rather a delicate flavour.

11th Sample.

St. Julien.—Purchased of Mr. Campbell, 158, Regent-street, W. 22*s.* per dozen.
Specific gravity, 995·0. Alcohol, 90·89. Acetic acid, 0·60. Tartaric acid, 11·13. Phosphoric acid, 0·388. Grape sugar, 3·18. Cane sugar, or other matter convertible into grape sugar, 1·05. Albuminous matter, 1·11. Total solids, 21·58. Ash, 1·78.
Of medium depth of colour; of good body, and fair alcoholic strength; astringent, and of pleasant flavour.

12th Sample.

St. Emilion.—Purchased of Mr. Stapleton, 203, Regent-st., W. 24*s.* per dozen.
Specific gravity, 995·1. Alcohol, 91·73. Acetic acid, 1·24. Tartaric acid, 8·82. Phosphoric acid, 0·35. Grape sugar, 3·36. Cane sugar, or other matter convertible into grape sugar, 2·92. Albuminous matter, 1·12. Total solids, 22·0. Ash, 2·45.
Of a deep colour, of full body and strength, and of a fruity and very agreeable flavour.

13th Sample.

Bordeaux.—Purchased of Messrs. Nunn and Sons, 25, Lamb's Conduit-street. 24*s.* per dozen.
Specific gravity, 996·9. Alcohol, 80·36. Acetic acid, 0·74. Tartaric acid, 11·29. Phosphoric acid, 0·388. Grape sugar, 7·27. Cane sugar, or other matter convertible into grape sugar, 2·60. Albuminous matter, 1·16. Total solids, 22·28. Ash, 2·42.
Astringent, and a little styptic; of rather low alcoholic strength; sound.

14th Sample.

The One Claret.—Purchased of The "One" Wine Company, 115, Cannon-street, City. 24*s.* per dozen.
Specific gravity, 996·4. Alcohol, 89·16. Acetic acid, 0·81. Tartaric acid, 11·21. Phosphoric acid, 0·273. Grape sugar, 3·69. Cane sugar, or other matter convertible into grape sugar, 0·24. Albuminous matter, 1·05. Total solids, 20·14. Ash, 1·90.
Full-bodied, soft, and astringent; a sound and good wine.

15th Sample.

Vaucleuse.—Purchased of MM. Piot Frères, 282, Regent-street, W. 14*s.* per dozen.
Specific gravity, 993·10. Alcohol, 101·92. Acetic acid, 2·118. Tartaric acid, 9·0. Phosphoric acid, 0·239. Grape sugar, 3·69. Cane sugar, or other matter convertible into grape sugar, 0·29. Albuminous matter, 0·796. Total solids, 19·42. Ash, 2·09.
Of a light and tawny red colour, like that of old port; thickish, as though a crust had been disturbed; acid; a slight aroma; flavour peculiar, and not unlike that of mild old port; of considerable alcoholic strength.

16th Sample.

Château Kirwan.—Purchased of Messrs. H. R. Williams and Co., Crosby Hall, Bishopsgate-street. 24*s.* per dozen.
Specific gravity, 994·85. Alcohol, 84·08. Acetic acid, 0·741. Tartaric acid, 9·26. Phosphoric acid, 0·298. Grape sugar, 3·74. Cane sugar, or other matter convertible into grape sugar, 3·20. Albuminous matter, 1·102. Total solids, 19·44. Ash, 2·34.
Light-coloured, astringent, sound, and of rather low strength in alcohol.

17th Sample.

Pauillac.—Purchased of Messrs. Gallais and Co., Margaret-street, Cavendish-square. 22*s.* per dozen.
Specific gravity, 995·6. Alcohol, 88·86. Acetic acid, 0·706. Tartaric acid, 9·53. Phosphoric acid, 0·293. Grape sugar, 3·71. Cane sugar, or other matter convertible into grape sugar, 0·16. Albuminous matter, 1·307. Total solids, 20·56. Ash, 2·13.
Of medium colour, bright and clear; clean on the tongue, as though containing but little sugar; of delicate flavour, and altogether a very nice wine.

BURGUNDIES.

18th Sample.

Beaujolais.—Purchased of the Victoria Wine Company, 16, Mark-lane. 12*s.* per dozen.
Specific gravity, 996·65. Alcohol, 90·42. Acetic acid, 0·81. Tartaric acid, 11·29. Phosphoric acid, 0·28. Grape sugar, 4·73. Cane sugar, or other matter convertible into grape sugar, 0·50. Albuminous matter, 1·16. Total solids, 21·54. Ash, 2·89.
Soft, and of superior flavour.

19th Sample.

Beaujolais.—Purchased of The Times Wine Company, 71, Bishopsgate-street, E.C. 15*s.* per dozen.
Specific gravity, 995·7. Alcohol, 89·07. Acetic acid, 0·40. Tartaric acid, 12·44. Phosphoric acid, 0·388. Grape sugar, 4·55. Cane sugar, none. Albuminous matter, 1·31. Total solids, 19·58. Ash, 2·07.
Full bodied, and of rather deep colour; rather sharp; astringent, but not styptic; sound.

20th Sample.

Beaujolais. — Purchased of Messrs. Fearon and Son, 94, Holborn-hill. 20*s.* per dozen.

Specific gravity, 995·90. Alcohol, 84·37. Acetic acid, 0·56. Tartaric acid, 11·56. Phosphoric acid, 0·399. Grape sugar, 5·71. Cane sugar, or other matter convertible into grape sugar, 2·28. Albuminous matter, 1·27. Total solids, 22·00. Ash, 1·63.

Rather sharp, but sound, and of no great alcoholic strength.

21st Sample.

Medoc.—Purchased of The Foreign Vineyard Association, 200, Regent-street, W. 16*s.* per dozen.

Specific gravity, 996·0. Alcohol, 89·32. Acetic acid, 0·742. Tartaric acid, 10·15. Phosphoric acid, 0·208. Grape sugar, 4·12. Cane sugar, or other matter convertible into grape sugar, 0·62. Albuminous matter, 1·261. Total solids, 23·88. Ash, 2·28.

Deep-coloured, strong-bodied, astringent, and fruity; altogether a strong and rich wine.

22nd Sample.

Medoc.—Purchased of MM. Piot Frères, 282, Regent-street, W. 28*s.* per dozen.

Specific gravity, 996·3. Alcohol, 87·75. Acetic acid, 0·74. Tartaric acid, 10·59. Phosphoric acid, 0·293. Grape sugar, 4·18. Cane sugar, or other matter convertible into grape sugar, 0·66. Albuminous matter, 1·207. Total solids, 21·92. Ash, 2·09.

Of medium colour and body; mild, astringent, thoroughly genuine wine, of delicate and superior flavour.

23rd Sample.

Macon.—Purchased of Hedges and Butler, 155, Regent-street, W. 30*s.* per dozen.

Specific gravity, 995·36. Alcohol, 88·84. Acetic acid, 0·918. Tartaric acid, 8·91. Phosphoric acid, 0·476. Grape sugar, 3·76. Cane sugar, or other matter convertible into grape sugar, 0·48. Albuminous matter, 1·17. Total solids, 20·92. Ash, 2·27.

Of medium colour, soft, and of full and delicate flavour.

24th Sample.

Castle 2 Burgundy. — Purchased of Messrs. Gilbey, 357, Oxford-street. 18*s.* per dozen.

Specific gravity, 994·46. Alcohol, 100·15. Acetic acid, 0·918. Tartaric acid, 10·23. Phosphoric acid, 0·385. Grape sugar, 2·24. Cane sugar, or other matter convertible into grape sugar, 1·99. Albuminous matter, 1·396. Total solids, 22·36. Ash, 2·16.

Rather deep coloured and full bodied; of considerable strength in alcohol; astringent; sound.

25th Sample.

Burgundy Pommand. — Purchased of Messrs. Hermann and Co., 6, Mincing-lane, E.C. 30*s.* per dozen.

Specific gravity, 995·43. Alcohol, 96·38. Acetic acid, 0·847. Tartaric acid, 9·00. Phosphoric acid, 0·54. Grape sugar, 5·68. Cane sugar, or other matter convertible into grape sugar, 0·91. Albuminous matter, 1·977. Total solids, 19·60. Ash, 2·18.

Of a deep colour; soft; a little heavy and styptic; full flavoured; and altogether not unlike a Carlowitz.

ANALYSES OF WINES.

(Composition of 1000 grain measures.)

Name of Wine.	Where Bought.	Specific Gravity.	Absolute Alcohol by volume.	Proof Spirit by volume.	Carbonic Acid.	Volatile Acids: Acetic &c.	Fixed Acids: Tartaric &c.	Tartrate of Potass.	Anhydrous Phosphoric Acid.	Grape Sugar.	Cane Sugar &c.	Nitrogen.	Albuminous Compounds.	Total Solids.	Mineral Matter.	Relative strength of Colour.
Claret, Bordeaux, 14*s.* ...	Brett & Co.	996·70	87·54	154·60	...	0·64	10·32	4·572	0·340	4·37	None	0·211	1·35	23·70	2·57	1254
Claret, 12*s.*	Fearon & Sons	996·30	94·11	166·20	...	0·99	10·68	5·212	0·450	2·09	3·54	0·173	1·11	20·24	2·37	1134
Vin Ordinaire, 15*s.* ...	European & Colonial Wine Co	995·00	98·61	174·15	...	1·48	9·27	3·084	0·365	4·29	1·52	0·189	1·08	22·68	2·40	1262
Claret, 18*s.*	Ingram & Co.	995·60	89·97	158·89	...	1·02	11·65	2·768	0·401	5·48	0·81	0·197	1·28	15·68	1·95	630
Claret 2, 16*s.*	Times Wine Co.	993·40	113·70	200·79	...	0·92	11·21	3·084	0·280	1·47	2·90	0·176	1·12	21·96	2·35	727
Claret, 15*s.*	Victoria Wine Co... ...	996·30	79·44	140·29	0·022	0·60	11·36	2·820	0·316	3·54	0·94	0·210	1·34	19·68	1·93	739
Claret, St. Estephe, 18*s.*	Watson	996·65	79·06	139·62	...	0·56	11·65	4·630	0·404	5·13	0·76	0·107	0·69	18·02	2·22	516
Castle C. Claret, 18*s.* ...	Gilbey & Co.	994·90	95·65	168·92	...	0·95	10·41	2·768	0·358	4·38	0·78	0·164	1·03	22·10	2·16	971
St. Julien, 24*s.*	European & Colonial Wine Co	997·00	80·86	142·80	...	0·78	10·89	3·777	0·298	4·20	1·18	0·173	1·11	21·80	2·24	877
Ditto, 24*s.*	Hedges and Butler ...	997·20	79·40	140·22	...	1·13	10·89	3·408	0·404	4·60	0·72	0·196	1·26	21·40	2·32	909
Ditto, 22*s.*	Campbell	996·00	90·89	160·51	...	0·60	11·13	4·628	0·388	3·19	1·05	0·173	1·11	21·88	1·78	877
St. Emilion, 24*s.* ...	Stapleton	995·10	91·73	162·00	...	1·24	8·82	3·080	0·350	3·38	2·92	0·175	1·12	22·00	2·45	1000
Claret, Bordeaux, 24*s.* ...	Nunn & Sons	996·90	80·36	141·92	...	0·74	11·29	3·991	0·388	7·27	2·60	0·180	1·16	22·28	2·42	508
The "One" Claret, 24*s.*...	The "One" Wine Co. ...	996·40	89·16	157·45	...	0·81	11·21	3·404	0·273	3·69	0·24	0·164	1·05	20·14	1·90	900
Vaucleuse, 14*s.*	Piot Frères	993·10	101·92	180·08	...	2·118	9·00	4·159	0·239	3·69	0·29	0·124	0·796	19·42	2·00	385
Château Kirwan, 24*s.* ...	Williams & Co.	994·85	84·08	148·49	...	0·741	9·26	2·768	0·296	3·74	3·29	0·157	1·103	19·44	2·34	500
Pauillac, 22*s.*	Gallais & Co.	995·00	88·86	156·92	...	0·706	9·83	3·459	0·293	3·71	0·16	0·204	1·307	20·56	2·13	680
Beaujolais, No. 1, 12*s.* ...	Victoria Wine Co. ...	996·65	90·42	159·65	...	0·81	11·29	3·350	0·280	4·73	0·50	0·180	1·16	21·54	2·80	941
Ditto, 15*s.*	Times Wine Co.	995·70	89·07	157·30	...	0·40	12·44	3·350	0·388	4·55	None	0·205	1·31	19·58	3·07	941
Ditto, 20*s.*	Fearon and Sons	995·90	84·37	149·00	0·190	0·56	11·56	3·080	0·399	5·71	2·28	0·197	1·27	22·00	1·83	640
Medoc, 16*s.*	Foreign Vineyard Assoc.	996·00	89·32	157·73	0·14	0·742	10·15	3·850	0·208	4·12	0·62	0·197	1·261	23·88	2·28	1353
Ditto, 28*s.*	Piot Frères	996·30	87·75	154·97	...	0·741	10·89	3·080	0·293	4·18	0·66	0·188	1·207	21·92	2·09	840
Macon, 30*s.*	Hedges & Butler	995·36	88·84	156·99	...	0·918	8·91	2·768	0·476	3·76	0·48	0·182	1·171	20·93	2·27	833
Castle 2, Burgundy, 18*s.*	Gilbey & Co.	994·46	100·15	176·96	...	0·918	10·23	2·697	0·385	2·24	1·99	0·218	1·396	22·36	2·16	980
Burgundy Pommand, 30*s.*	Hermann & Co.	995·43	96·38	170·21	...	0·847	9·00	3·245	0·540	5·68	0·91	0·309	1·977	19·60	2·18	667

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 21, 1867.

THE differences of medical practitioners in regard to points of daily practice have often been the subject of remark and the occasion of expressions of disrespect, not alone among the general public, but among those who are accustomed to move in an atmosphere of purer science and of exacter data than is the lot of the daily practitioner. It is the disparagement of the latter critics that is so hard for medical men to bear—of chemists, of scientific physiologists, and of the purer and more special practitioners who try to bring their practice into accord with precise data and minute facts. We have no word of apology for loose data and for all the loose fashions of medical practice that have been based upon them. But we have to say, by way of extenuation, what indeed is obvious enough, that the sins of inexactness and variableness lie at other doors besides that of the medical practitioner; at any rate, that common medical practice in its variableness only represents the indecision of science itself in the sphere of vital phenomena, where precision is most difficult of attainment. We have been led into these reflections by reading two very important papers from the "Proceedings of the Royal Society," by Dr. PARKES, "On the Elimination of Nitrogen during Rest and Exercise." These papers are, of course, characterised by the care and accuracy which distinguish all Dr. PARKES's writings, and cannot but prove valuable contributions towards the settlement of the physiological questions of which they treat. But, at the same time, they go to show the extremely unsettled state of some physiological questions which we have been fain to think were already settled.

Dr. PARKES has been repeating on a larger scale the experiments of Professors FICK and WISLICENUS, of Zurich, which last year produced a great impression on physiologists. Our readers may remember the general nature of these experiments, and of the conclusions to which they led many physiologists. The Swiss Professors ascended the Faulhorn, a peak of the Swiss Alps, on the strength of a diet composed only of non-nitrogenous food. For eighteen hours before the ascent, during the time of it, and for six hours afterwards, they took hydro-carbonaceous food only. The amount of muscular effort implied in this feat was great. But—and this is the interesting point of their observations—the amount of urea excreted during the ascent was little more than the usual amount; and that excreted in the six hours after the ascent was less than the quantity excreted in a similar time before starting. This result was different from what would be expected on the supposition that LIEBIG's theory of muscular power was the right one—namely, that it is derived from the oxidation of the muscular tissue. Were this the case, we should have expected a much larger excretion of nitrogen, in urea or some other form, after a feat involving, on LIEBIG's theory, so great a destruction or oxidation of the muscular substance. The experiments seemed to show that during exercise on a non-nitrogenous diet there was a diminution in the amount of nitrogen eliminated, and that the oxidation of nitrogenous tissues was not the source of muscular power. Professor FRANKLAND, after numerous experiments with a view to determine the value of various articles of food in common use as to their capabilities for the production of muscular power,* accepted the conclusions of FICK and WISLICENUS, and expressed himself with much plainness in a series of propositions which will startle those physiologists who have been accustomed to accept, with perhaps too little questioning, not only the facts but the theories of LIEBIG. Let us give, in his own words, Professor FRANKLAND's principal conclusions:—

"1. A muscle is a machine for the conversion of potential energy into mechanical force.

"2. The mechanical force of muscles is derived chiefly, if not entirely, from the oxidation of matters contained in the blood, and not from the oxidation of the tissues themselves.

"3. In man, the chief materials used for the production of muscular power are non-nitrogenous; but nitrogenous matters can also be employed for the same purpose, and hence the greatly increased evolution of nitrogen under the influence of a flesh diet, even with no increase of muscular exertion.

"4. Like every other part of the body, the muscles are constantly being renewed; but this renewal is scarcely perceptibly more rapid during great muscular activity than during comparative quiescence.

"5. After the supply of sufficient albuminoid matters in the food of man to provide for the necessary renewal of the tissues, the best materials for the production both of internal and external work are non-nitrogenous matters, such as oil, fat, sugar, starch, gum, &c."

Dr. PARKES's experiments, as we have indicated, were made with the view of testing the results arrived at by FICK and WISLICENUS, and of determining one or two points which had not been determined in their experiments. Especially, Dr. PARKES tried to ascertain the exit of nitrogen by the intestine. The general drift of Dr. PARKES's observations was in accordance with that of the Zurich professors. His experiments were divided into two sets. In both sets the excretion of nitrogen by the kidney and the intestines was carefully ascertained. In the first set occurred a period of two days, in which the two men experimented on were kept on non-nitrogenous food, consisting of arrowroot cakes, jelly, sugar, and the oil of butter. They walked on the respective days 23·76 and 32·78 miles. In other words, and according to the formula of Professor HAUGHTON, they did muscular work, on the respective days, equal to the lifting of, in the case of S, 453·6 and 625·8 tons, and, in the case of T, of 346·74 and 475 tons, to the height of one foot. If muscular action resulted from the oxidation of muscular tissue, we should have expected to find a great increase of urea in the urine of these men during this period. But such was not the case. We should have said that in a previous stage of the experiment the men were fed in the same way, for the same period, but kept in a state of rest. Let us give the results of work on a non-nitrogenous diet in Dr. PARKES's own words:—

"In each man in the first twenty-four hours nearly one gramme less was excreted by each man in the period of exercise as compared with that of rest. In the next twelve hours each man excreted very nearly half a gramme less in the period of exercise as compared with rest. In the last twelve hours (chiefly rest during night) the urea increased in each man in

* See Lond. Edin. and Dub. Mag., Sept. 1866; or Journal of Anatomy and Physiology, No. I., Nov. 1866.

the period of exercise as compared with that of rest, the absolute increase in S being two grammes, and in T one gramme."

It will be noticed that while the men were actually at work there was a diminution in the urea excreted. There was no increase in the excretion of nitrogen by the bowels. What, then, becomes of the theory that during work the muscles are being oxidised and their tissue changed? It is important, however, to notice that in the last twelve hours of this time, when the men were resting, the amount of urea rose considerably. Such are the chemical facts. The physiological ones are, that the men lost weight—S two kilogrammes, and T three quarters of a kilogramme; and that the men did the work very well the first day, but were very much fatigued during the last thirteen miles of the second day's journey, and had pain in the small of the back during the last four miles. Dr. PARKES believes that they could not have done nearly so much work on the third day.

These various experiments are undoubtedly calculated to modify recent views of the uses of different kinds of food, and of the origin of muscular force. They teach us that a great amount of work can be done for a short time on non-nitrogenous food, and that even in severe exercise there is a diminished rather than an increased excretion of substances that are supposed to represent the oxidation of muscular tissue. If Professor FRANKLAND is right in regarding the calorific power of different substances as a measure of their capability to supply muscular force—as, however, appears to us very doubtful,—then animal and nitrogenous foods are not the only, and should not be the principal, sources of muscular power. It seems quite clear, at any rate, from the experiments of SMITH, HAUGHTON, and PLAYFAIR, and the later experiments of the Swiss Professors and of Dr. PARKES, that the amount of muscle destroyed in exercise will not chemically explain the amount of force displayed; in other words, that we derive our force from the oxidation of food, even non-nitrogenous food, digested and taken into the blood, rather than from that of muscular or any other tissue. These experiments certainly tend to disparage the theories of LIEBIG. They suggest doubts, too, about the wisdom and the necessity of recommending the very large quantities of strongly nitrogenous food which has been a medical habit of late years. At the same time, it would be wrong, on the strength of any mere chemical experiments, to make any sudden changes in those rules of diet which experience has shown to be good. In Mr. SAVORY's interesting experiments on rats, which will be found recorded in THE LANCET of 1863, it was noticed that animals fed on a purely non-nitrogenous diet fell into a state of extreme emaciation and died. In Dr. PARKES's experiments, the men so fed lost weight and became very fatigued; and very serious consequences would have followed had the experiment been continued. Economically and medically, it is extremely important to ascertain the exact amount of nitrogenous food indispensable to the maintenance of health and strength under different conditions of life; and to know, if we can, how, not only safely but beneficially, to replace with non-nitrogenous aliment some of the nitrogenous food which has lately been recommended so largely.

OUR readers will remember that we were among the first, if not the first, to take exception to the gloomy forebodings in which well-nigh everybody seemed to be indulging when writing or speaking of the Abyssinian expedition. We stated very distinctly our inability to discover the grounds for all these dismal prophecies, which seemed to us to be founded upon fabulous and chimerical statements rather than upon any practical knowledge of the country, its climate, or the diseases incidental to it. Now that the subject has been studied with more attention, and people have traced on their maps the various topographical features of the country, with the aid of the works of private travellers, they have begun to discover for themselves the truth and force of our remarks, and a much more hopeful tone has of late characterised the articles in the press. The general public were ignorant or imperfectly acquainted with Abyssinia; and we saw, in consequence, an illustration of the truth of what Archbishop WHATELEY, we believe, expressed about imperfect knowledge having a tendency to make us exaggerate difficulties, just as the dim and imperfect vision we gain of objects in a fog or in twilight leaves ample play for our fears and imagination to exaggerate their size and importance.

We are given to understand that the entire management of the campaign is vested in the Government at Bombay, and that nothing whatever is done by our Home authorities except on their requisition. The fitting out of the hospital ships at Deptford appears to be progressing rapidly. These vessels are the *Mauritius*, *Queen of the South*, and the *Golden Fleece*, and they are to be equipped and provisioned for six months. The aggregate tonnage of the three is 6990 tons. From 150 to 200 invalids at least can be accommodated on board each of these ships, exclusive of the crew, attendants, and others. Considering that very hot region, the basin of the Red Sea, as compared with the salubrious climate of the table land of Abyssinia proper, we must confess to sharing the surprise of the *Pall Mall Gazette* at the employment of any vessels in that region for such a purpose. To send the sick from the highlands for treatment in an iron ship at Massowah or Analey Bay is exactly the same thing, it seems to us, as transferring invalids from a hill station to the plains of India. Then, we all know what iron vessels are—how insufferably hot and stuffy they are apt to become. Surely some of our fine old wooden vessels would have been preferable to iron ones, and they might have been utilised for hospital purposes without any great difficulty, and certainly with a considerable saving of expense. We have been informed, however, that these vessels are not designed to be used as stationary hospitals, although they may be detained for short periods if requisite; but they are to be exclusively employed for the reception and conveyance of the sick and wounded. They are being fitted with Dr. EDMONDS' system of ventilation. It is intended to give an ample allowance of air: every invalid will have between 300 and 400 cubic feet of space, and the ordinary ventilation will be supplemented by affording the largest practicable sectional area for the inlet and outlet openings, with punkahs as accessories.

The construction of these iron vessels is, we think, somewhat faulty in one important particular: there is no provision for securing a free fore and aft ventilation. The vessels are divided between decks into compartments by bulkheads, with a row of stern cabins in the saloon. Now, a perfect hospital ship ought to resemble the sick ward of an hospital as far as practicable; and this can only be effected by making their decks flush, and by removing the stern cabins, and substitut-

ing windows or ports for them. The medical officers will comprise a surgeon and assistant-surgeon for each vessel. These will be officers belonging to the British army; but, with this exception, we understand it is not intended to employ an officer of that service as a sanitary officer. We are bound to state that no expense has been spared, apparently, in the fitting out and adaptation of these vessels for the special service on which they are to be engaged. Nothing that can be fairly said to contribute to the treatment and cure of the sick has been overlooked. When the line of military operation in the country has been more fully defined, the base of operations will be decided on, and we venture to prophesy that field hospitals, on some elevated plateau, will prove the best position for the treatment of the sick.

As we have said before, the lowlands are confessedly unhealthy. The distance required to be traversed by the troops before reaching the highlands is very different at different places. Sanitary considerations may, of course, have to give way before those of a military or strategical character; still, it would appear that, with the arrival of troops at the mountains and table land will the dangers to health be overcome, and, on the other hand, the difficulties to further progress and transport will commence.

Information collected from various writers, as well as what is known of the nature of the climate, would suggest that the heat and humidity of the atmosphere, the malarious character of the soil in certain places, the unwholesome character and uncertain supply of water, and the quantity of fine sand in the hot and humid atmosphere of the frontier, will be among the main factors of disease. These are conditions peculiar to the climate, and we can to a great extent predicate the results—fevers, hepatic affections, dysentery, and ophthalmia. Abyssinia being a pastoral country, the people said to be singularly dirty in their habits, and the dogs and other animals very numerous, the streams are liable to become infected with the ova of worms and other parasites which quickly develop in the human subject. We may, however, practically exclude this from our consideration, for we are ignorant of the extent to which these causes prevail, and tapeworm does not render the soldier ineffective.

Of course, a certain amount of disease is inseparable from an army engaged on active service, and the total absence of all hygienic considerations in which the inhabitants are said to live, must be reckoned among the possible elements of danger. But we cannot regard these in the light of insuperable difficulties. Forewarned is to be forearmed. Although no amount of vigour of constitution confers absolute immunity against the effects of malarial poisoning, we know to a certainty what are the conditions that engender a susceptibility to its action. Much may be done to avert these evils by a careful exercise of judgment in the choice of camping ground, in the use of tents and water-decks, in the examination and filtration of the water —and 5000 portable filters it is said will be supplied to the army—and in the proper feeding and clothing of our troops. Moreover, we know that quinine exercises a strong prophylactic action against malarial fever and its congener dysentery.

To conclude: we do not say, let us shut our eyes to the dangers, because no one can possibly foretell the events of any campaign, seeing that cholera or some other epidemic disease may appear in Abyssinia as in any other locality; but what we do maintain is this,—that Abyssinia proper is not an insalubrious climate, that the dangers to health have been exaggerated to a ridiculous extent, and that there is nothing so formidable but that the Bombay Government and the Medical Department may overcome it by the exercise of vigilance, foresight, and by the expenditure of money.

We give the Government more credit for knowing what it is about than is generally extended to it. Not being military journalists, perhaps it is impertinent for us to express an opinion on a strictly military matter; but we verily believe that half the number of troops would suffice to effect the object in view, and unquestionably the greater the army employed the greater will be the difficulties in the way of organising its transport and commissariat.

AUTUMN, the season of dispersion from the metropolis, is also the season of congress in the provinces. Then Science is "at home" to all accredited comers; then, seated like DIDO at the feast, she calls upon her guests to narrate their several experiences since the last occasion of their meeting; then novel statement provokes friendly criticism, which, again, incurs amicable rejoinder. Of all the yearly gatherings which the autumn brings about, there is none so interesting, certainly none so instructive, as that of the British Association. The Social Science Congress is not without its merits; but hitherto the amateur character of its members and the crude and often fallacious quality of its published transactions, have failed to give its meetings an importance at all commensurate with their philanthropic purpose. The British Medical Association is of so entirely special a character that its proceedings, though of the highest interest to the profession, and often productive of the most solid benefit to science, are yet wanting in that general attraction which the British Association commands. If other proof of the excellence of such meetings as that just dissolved at Dundee were required, we have but to look at the Welsh Eisteddfodd on the one hand, or the Peace Congress at Geneva on the other, to see the vast superiority which the discipline of science and the intellectual refinement and urbanity it confers, can communicate to the meetings at which its cultivation is celebrated. In the one case, we have but the rude and often discordant expression of impulses, often generous and praiseworthy in themselves, but uncontrolled by strict method and unsusceptible of practical application. In the other, we have nothing said or written that is not at once tested by the severest processes of criticism and discussion; consequently, nothing that is not either in itself an acquisition to science or a contribution to its more accurate development.

It is one among many signs of the widening culture and progressively catholic sympathies of the medical profession that it contributes so largely to the proceedings of the British Association, and participates with alacrity in discussions relating to topics even remotely connected with its own. Nothing is more the mark of a complete professional mind, as nothing conduces more to its development, than this readiness to receive fresh knowledge, of whatever kind and from whatever quarter. The instances are of yearly augmenting significance, in which the medical investigator, prosecuting, sometimes for recreation merely, some researches in the non-medical sciences, has fallen upon new and valuable facts, or has discovered a principle pregnant with meaning for the theory and practice of his profession. As the doctrine of Continuity, so lucidly expounded by Mr. GROVE at last year's meeting, asserts itself in

nature, so the medical inquirer finds his subject-matter touched at more and more points, and he feels it becoming daily more difficult to divide by a sharp line of demarcation his special field from those which lie contiguous to it. The incentive to pursue with increasing ardour his researches into the phenomena of life, and of those physical conditions under which it exists, is thus kept ever fresh; and while the constant accession of new facts and the discovery of new principles encourage his exertions, the ever-widening horizon before him warns him against the pride of knowledge, and shows him the vanity of resting satisfied with conclusions which a few years may prove to have been fallacious, if not absolutely false.

Excellent examples of the spirit in which medical investigation should be prosecuted are found in the two papers which, of all others submitted to the British Association, were of greatest professional interest. Several times within the last twenty years physiologists have flattered themselves that they have at length discovered the true functions and active processes of the liver, but as often a fresh inquirer has disturbed the conclusions so complacently exhibited. Dr. HUGHES BENNETT showed, in an able report, how we are still on the threshold of knowledge as to the amount of bile secreted in health. Ignorant as we are of the physiological action of the liver, we are still in the dark as to its pathological developments; and the unquestioning belief still entertained by many practitioners in the therapeutic virtues of mercury as a cholagogue appears more than absurd when the most careful experiments have failed to determine whether mercury has any therapeutic efficacy on the liver at all. The abandonment of long-cherished doctrine was still further illustrated by Dr. RICHARDSON, who formally withdrew his theory as to the coagulation of the blood being due to the escape of ammonia. He endeavoured to substitute a new doctrine, by ascribing the coagulating process to the absorption of caloric force by the blood, and to a molecular change determined by the condition of its watery constituent. It is to be hoped that he will favour the profession with a detailed account of the experiments by which he has arrived at this conclusion, as he cannot expect his mere note of hand to find universal acceptance, now that he has abandoned his former theory. But his paper will be of value if only as inducing other inquirers to examine his statements by the light of their own experiments; and it may happen, as so often it has happened, that the researches instituted for the purpose of refutation result in conclusive and independent discovery.

Medical Annotations.

"*Ne quid nimis.*"

FASHION.

THE mutability of fashion is proverbial, especially in all matters of female attire and adornment; so that when a lucid interval does occur it is probable some utterly preposterous vagary will very soon mark the relapse. It happens, however, that just at this time men and women who attire themselves according to the dictates of fashion, and fall down and worship the images that tailors and milliners set up, wear clothes which may pass even the stern censorship of the physiologist. Men have for a long time been gradually freeing themselves from all those forms of dress which produce personal discomfort. Ruffles, and stiff cravats, and frills, "like the overgrown fins of overgrown perches," are as certainly extinct as chain armour and slashed doublets. It is a generation that loves its ease; and the veriest fop would certainly snub—and possibly kick—any enterprising tradesman who might suggest tight-lacing, advise the wearing of a chignon, or propose dyeing his hair, and making up his complexion to match. Possibly one of the reasons for such a demonstration of wrath might be the conviction that every woman would detect the artifice with the same accuracy that every man recognises the extent to which a woman has subjected herself to fashionable manufacture—from that dreary old dowager who, "Beautiful for Ever," wears low dresses to display her enamelled shoulders, down to the poor foolish virgin whose fussy pad shows through her feeble attempt at a chignon.

These minor follies are however only of the day, and do no permanent mischief. But it is reported that fashion has at last relieved women from a bondage which they have patiently endured for more than two centuries. Those abominable contrivances called stays are become unfashionable. When we remember how they so compressed the lower ribs as to throw the work of respiration on the upper lobes of the lungs, how the excessive local determination of blood thus produced rendered these parts specially liable to the influence of chill and to the development of tubercular and other diseases, we may reasonably rejoice to learn that women are to be thus uncaged. The ancient style of robe, seeming as though swathed round the figure—

"Ad talos stola demissa et circumdata palla,"

such as the vestal virgins wore, is to be revived; and the good old thrifty adage may by the coming generation be read as "waist knot want not."

It might be reasonably doubted whether there is much in common between those virgins who lived in constant dread lest the lamp of Vesta should be extinguished, and our modern damsels who have learnt the value of matches for always insuring "a bright light in a naughty world." But extremes meet; and in the ponderous "Antiquité expliquée" of Montfaucon, Tucca the vestal virgin, who was so pure that the force of her virtue enabled her to carry water in a sieve, is represented (on reliable authority) in modern fashionable attire—dress, chignon, and all. Moreover, Festus informs us that "when sacrificing they wore a peculiar head-dress, consisting of a piece of white cloth, bordered with purple, oblong in shape, and secured by a clasp"—in fact, the latest fashion of Paris bonnets.

Now there is this meaning in the present phase of female attire. If women would only adhere to it, would let their own hair be just bound down as a natural covering to their heads when out of doors; would clothe their bodies sensibly without pinching themselves into hideously unnatural shapes; would wear well-shaped boots in which they might walk comfortably and taste the pleasures of exercise, there would soon be an end to that representative class of the female sex about whom doctors know a great deal. The race of chlorotic girls, of ailing wives, of inefficient mothers would be improved off the face of creation. The scrofulous, consumptive, dyspeptic, pimpled, and costive women who crowd the physicians' waiting-rooms, and swallow every largely advertised remedy, from Parr's pills to Pancreatic emulsion, would no longer need medicine.

But we have no fear for the many thousands per annum of which such a desirable reform would deprive the profession. One might nail a weathercock to insure the wind thenceforth blowing in that direction with the same chance of success which attends any effort to control the vagaries of fashion by the dictates of reason or of common sense. If no new folly can be invented, there are old ones in plenty to revive. Thus the stupid and objectless custom of permanently spoiling the hair by dyeing it yellow is in reality but the revival of a fashion which prevailed at a time when women had touched the lowest point of their

social degradation recorded in all history. Myrepsus, one of the latest writers of the Greek school, in the second chapter of the forty-fourth section of his "Work on the Composition of Medicines," supplies two receipts for making washes that shall dye the hair yellow, and carefully describes the method of their application to the living scalp. Dyes composed of such simple and innocuous vegetable ingredients as Myrepsus describes are certainly preferable to the destructive materials of which the washes now employed are composed; and this is the best that can be said in their favour. It is recorded that the hair of captives and of dead women was cut off to supplement the tresses of the Grecian ladies; and it may be that the fashion was thus derived. It is easy to artificially produce the dull tint of flaxen hair; but that rich glossy black colour, which is almost peculiar to the Grecian women, cannot be artificially produced. It is reported that, now-a-days, the trade of the resurrectionist has been revived, and that German graveyards are outraged in order that London markets may be supplied with hair of the fashionable tint, so as to match in its dull dead hue the colour which hair assumes when its vitality is destroyed by the dyes in vogue. The net of gold thread and beads in some degree obviates this; but it is a miserable expedient to hide a disgusting sham which any honest English girl should be ashamed to adopt.

MEDICAL ATTENDANCE ON SOLDIER ' FAMILIES.

IN the recent Army Circular respecting married soldiers and their families, we find that the amount of medical attendance by the regimental officers to which the latter are entitled is fully defined. The families of soldiers on the married establishment are entitled to medical attendance and medicine, when they live within a mile of the hospital or dispensary, in all cases except midwifery, when they are not entitled to call upon the regimental officers except in cases where it can be shown that no midwife or private practitioner could possibly be obtained. Port wine, brandy, arrowroot, and essence of beef, are permitted to be issued to the families of married soldiers, under the ordinary restrictions. Where hospitals for women and children are provided by Government, the patients will be dieted at the public expense, as well as receive all necessary medical attendance. At stations where such female hospitals have not been provided, the circular authorises the allotment of a room in barracks as a ward for the reception of sick women and children at the discretion of the medical officer; and for such cases the authorities will provide equipment, fuel, and light, but will not be responsible for the expenses of diet or nursing.

This order, by stating plainly the relations of both parties, will be a boon to the medical officers and the families of married soldiers. The radius of a mile is ample for the accommodation of the families, and will yet save the assistant-surgeon's being walked off his legs; whilst the restriction as to midwifery practice will both relieve the military surgeons from an irksome duty, and at the same time throw practice which is legitimately theirs into the hands of the neighbouring private practitioners. The formation of hospitals and wards for sick women and children will be welcomed by both patients and doctors, and will serve to diminish much of that fatality amongst soldiers' children which is at present but too common.

DANGERS OF THE STREETS.

THE authorities of Paris are said to have under consideration a project for throwing foot-bridges over the most crowded thoroughfares of that city, in consequence of the great risk attending a passage across the streams of vehicles, of which a great number are in the charge of careless or incompetent drivers. The *Figaro* says that every day from eight to fifteen persons are knocked down or run over by vehicles in Paris; what proportion of these are killed is not stated. In London the "dangers of the streets" are patent to everybody, and the loss of life by accidents from vehicles amounts in a year to a very startling total. Looking through the Registrar-General's Weekly Returns, we find that since last February *one hundred and eleven deaths* have been registered as caused by horses or carriages in the streets, giving for the last thirty weeks an average of nearly four deaths per week. In one week ten deaths were recorded, and of these six were of persons over fifty-five years of age, and two were of children under ten years of age. The numbers receiving anything short of fatal injury are not recorded. To childhood and feeble age the passage of our over-crowded streets is full of peril, and it is not creditable to the humanity or the public spirit of the metropolitan authorities that suggestions which have often been made for erecting light foot-bridges at the most difficult crossings have not been adopted long ago. Are the Boulevards Montmartre, Capucines, and Italiens more thronged with vehicles going in all sorts of distracting directions than the Oxford-street-circus, the junction of Fleet-street and Ludgate-hill, the open space hard by the Bank and the Mansion House, the confluence of Cannon-street, King William-street, Gracechurch-street, and London-bridge, or other well-known places of excessive traffic. One of these days some peer, perhaps Sidney Smith's bishop, or other person of high station, will get knocked down and killed by a dashing "Hansom," or one of those terrible Pickford's vans, and then possibly the authorities will be so shocked that something will be done. But a hundred or two of children and old people,—mere nobodies! It is their lot to die, and what does it matter to metropolitan or local "boards" whether they are crushed beneath the Juggernaut of the streets or not?

COMFORTS IN THE NAVY.

THE *Times* devoted a column last week to the evidence taken before the Syphilis Committee respecting preventive measures in the shape of recreation rooms, &c., for the sailors, by which they may be allured from the brothels of Portsmouth. We cordially endorse every word of praise which such institutions have received, and can conceive nothing more likely to prevent venereal disease in the service than rational amusement provided on board ship, with the possibility of an hour or two on shore for exercise and visiting friends. Nothing could have been devised more likely to propagate disease than the plan of leave-giving which has hitherto been adopted in the navy—viz., from one evening to the following morning. Unless the sailor were married, or happened to have friends able and willing to receive him for the night, he was necessarily thrown upon his own resources, and, as a rule, preferred passing the night in female company. The entertainments at seaport towns being of the lowest description, there was nothing to elevate his *morale*, and drunkenness and debauchery were the rule for "the sailor ashore," and too often for the officer also.

We notice with pleasure that under the new *régime* the physical no less than the mental wants of the sailor receive some attention, and that he is permitted on board the *Duke of Wellington* to supply himself with refreshment in the shape of beer at a moderate price. This is as it should be; but we should be glad to see some attention paid to the more equable distribution of food to the crews of ships-of-war when on active service. At present the sailor has but three meals per diem: breakfast at seven, dinner at twelve, and tea at five. After this time there is nothing provided for the crew, who will, nevertheless, have to keep watch during the night, and may be exposed to all the vicissitudes of a sea life. Fourteen hours without food, and with six or eight of them spent on deck or in the rigging, must try the strength and endurance of old sailors, and must be terrible to the young. Can nothing be done in

the way of supper for the crew without upsetting discipline or compromising the dignity of the quarter-deck?

A very similar condition of things at Woolwich Academy has, we observe, at last been remedied by the provision of a supper for the cadets. In the navy the officers provide themselves with supper from their private stores of preserved meats, &c., and some wonderful cookery sometimes takes place in the recesses of the gun-room. The common sailor, however, cannot avail himself of these luxuries, and a paternal Government ought to make some provision, if only a cup of cocoa, for him.

It is gratifying to find that the general diet of the sailor is undergoing improvement in two particulars: one is the issue of celery-seed for flavouring the pea-soup, and the other is the issue of preserved meats for the use of the crew. In order to avoid the possibility of the recurrence of a "Goldner scandal," which it may be remembered some years ago exhibited the contents of Government contract meat-tins as a most unsavoury diet, the authorities at Deptford have wisely taken to preserving their own beef, killed and cut up by their own officers, so as to prevent the intrusion of horses' hoofs with the shoes on, which formed such a prominent feature in the contract supply. In process of time it will perhaps be found possible to ship the biscuits in tins instead of in bags, which allow them to become broken and dirty, instead of being kept clean and crisp. The old plan of "airing the bread-room" by a "wind-sail" has fortunately gone out of date, and "weevils" are rather rare in the present day; but the total exclusion of the humid sea-air from the biscuit has yet to be accomplished, and when done will prove an additional boon to the sailor.

SCIENCE A-FIELD.

A LOVE of scientific investigation has of late become largely developed in the middle classes of English society, and especially in the provinces, and this is due, in no slight degree, to the formation in various districts of "Field Clubs," the members of which devote themselves to the investigation of the natural history, archæology, and geology of their respective districts. As holding honourable positions among them, we may mention the Cotteswold Naturalists' Field Club, the Severn Valley Naturalists' Field Club, and others, which are in a flourishing state as regards numbers and activity.

Whilst affording both instruction and amusement to the members of the clubs, the excursions upon which they enter as part of their duty cannot but have an excellent effect upon their health. The professional and business man, who is forced away from his routine labours to climb a fine breezy hill, and spend a day in country air in pleasant society, cannot but be benefited, at least in health, whether he care or not for botanical rarities or geological strata. A knowledge of the subjects of investigation does not appear to be absolutely necessary for membership of a Field Club, for we find in the rules of one club that, though "only those candidates shall be eligible who are able to impart some knowledge in natural history, geology, or archæology," yet that a merciful exception is made in favour of the large class "who desire to study those subjects." To the medical man the advantages of such associations must be so obvious that no lengthened argument can possibly be required upon the subject, and we feel sure that "field-clubs" will have, to even a greater degree than heretofore, the personal support of our brethren in the provinces.

YELLOW FEVER AT DEMERARA.

IT will be remembered that the English public was shocked nearly a twelvemonth ago by the report of the decimation by yellow fever of the troops stationed at Demerara. A special Commission was appointed to investigate the circumstances, and from their Report, which was laid before the House of Commons at the close of the session, we gather the following facts.

The garrison consisted of a detachment of the 16th Foot, which arrived at Demerara in June, 1866, having come direct from the intensely cold climate of Nova Scotia. The men were not noted for temperance, and on their arrival in a hot climate the diet they found provided for them was bad and insufficient—conditions decidedly favourable to the development of tropical disease. Remittent fever soon made its appearance; but it was not till the middle of September that yellow fever showed itself; and now comes the tale of military and medical mismanagement. All military medical authorities agree in recommending the camping out, in a dry and healthy locality, of troops attacked by yellow fever; but the medical officer unfortunately had formed an opinion that the usual camping ground, at a place called Belfield, was not suitable for the purpose, and recommended that houses in that neighbourhood should be secured. Only convalescents were moved therefore from the seat of the disease, the remainder of the troops being strictly confined to barracks in the very hot-bed of the fever.

The results might easily have been foreseen. The troops were decimated pending orders from head-quarters to remove them to Barbadoes, and the small remnant which has been saved is now recruiting in the Isle of Wight, the country having lost the services of a battalion for a year.

It seems very doubtful whether it is necessary to keep a detachment of white troops in Demerara at all; but if it is, we trust that the sensible suggestion of one of the Medical Commissioners will be attended to—viz., that, seeing there is a bi-monthly steam communication between the islands, in future epidemics the commanding officer, on the recommendation of the senior medical officer, should be empowered to provide transport to Barbadoes for the white troops without waiting for permission and instruction from head-quarters.

HEALTH OFFICER FOR MANCHESTER.

AT a recent meeting of the Manchester Town Council, a motion in accordance with the recommendation of a sub-committee, that an Officer of Health for the city should be forthwith appointed, and that the post should be given to Mr. John Leigh, M.R.C.S., on the ground of his special qualifications, gave rise to a very lively discussion; the necessity for a Health Officer being questioned *ab initio*. It was asserted that the appointment of a Health Officer for Liverpool had not resulted in any diminution of mortality, but that, on the other hand, an immense increase of expenditure had been brought about. This attempt to stave off a much needed reform by a foolish misrepresentation failed in its object, and in the end the motion was carried, although only by the Mayor's casting vote. Subsequently, however, an amendment was agreed to, which affirmed the creation of the office, but postponed any appointment thereto "until fuller information be given to the Council as to the candidate or candidates, *medical or otherwise*, who may, after public advertisement has been given, be found eligible for, and prepared to apply for, the office upon the terms set forth in the report." The salary proposed is £500 a year. The question whether the appointment should be given to a medical man ought not to require a moment's consideration. Anybody having the least notion of the duties appertaining to an Officer of Health, must be well aware that they cannot be properly and efficiently performed by any but a medical man. If preventive medicine does not form a correlative and essential branch of our profession, we should like to know where it is to be looked for. Manchester holds, and has held for a long time past, a most unenviable position among the great cities of the kingdom on the death registers; it is much more unhealthy than London, and ranks at the present time considerably below Birmingham, Sheffield, or even Liverpool, in point of salubrity. We cannot blame the Town Council for wishing to have a choice of candidates; but, in the event of their selecting Mr. Leigh, they will obtain the services of a

veteran sanitary reformer, whose long and intimate acquaintance with Manchester has made him fully aware of the causes which render it so unhealthy. Mr. Leigh is a Fellow of the Chemical Society of London, and an esteemed member of the profession; he has also been connected with the duties of registration in Manchester for very many years, and his occasional reports to the Registrar-General on the sanitary condition of the city have invariably called forth high commendation from the official as well as from the public press.

ANOTHER FATAL MARCH IN INDIA.

WE regret to find that another fatal march has recently taken place in India, the scene of the disaster being Gwalior, and the occurrence owing to that stolid disregard of all ordinary rules of common sense which too often characterises military commanders. The *Delhi Gazette*, in commenting upon the melancholy narrative, says: "From reading the story, one would infer that it was the first time a British regiment ever made a march at all. On the morning of July 15th the regiment received orders to hold itself in readiness to move the same evening. The men were at once put on fatigue duty, and had to carry their cots and traps some distance in the sun, to be ready for packing, and only came off fatigue duty on the second bugle for parade sounding at 5.45 P.M. At a little after six the regiment marched out of cantonments, leaving nearly all their cots behind them, in consequence of there being no carriage ready. The old story. When the regiment left, there were only four *bheesties* (water-carriers) to supply the whole corps with water, two of whom ran away before they had proceeded a mile and a half. There was not a single doolie or cart for the sick with the column. The men, thoroughly fatigued with the day's work, kept falling out, and there was no one to help them or give them water, except the two bheesties. They reached camp about eight o'clock, where they found no camp pitched, and no arrangements. Later in the night the doolies arrived, and were taken back to look for the stragglers, two of whom were found in a dying state, and died before they arrived in camp. A colour-sergeant was found dead in the jungle next morning, and four more privates died in the camp hospital, all from sun-stroke or heat apoplexy. The quartermaster and assistant-surgeon were sent on to the camping ground at twelve in the day. When they arrived there, of course there was nothing for them to do, no camp being up. Both these officers were knocked up by exposure to the sun, and are both suffering from it still. A court of inquiry has been ordered to investigate the matter."

We would merely ask, what was the urgent necessity for the troops marching on that particular day, and at so short a notice, and why the rule of marching in the early morning was transgressed on this occasion?

HEALTH OF LONDON.

So far as the death registers indicate the state of the public health, very little fluctuation is apparent in the last three or four weekly returns for the metropolis. The 1262 deaths registered last week are equivalent to an annual rate of 21·4 per 1000 of the population; the rates for the two preceding weeks were 21·8 and 21·7, so that there is a slight balance in favour of the last return. The average rate for the ten preceding weeks was 21·6. The mortality from diarrhœa and cholera exhibits a slight tendency to increase, which is most marked in the northern districts, where 63 out of a total of 203 deaths from diarrhœa occurred. Children are the chief sufferers by these two diseases: of 203 fatal cases of diarrhœa, only 11 were in adults; and of 25 deaths from cholera or choleraic diarrhœa, 21 were of children.

It is calculated that, during the last five weeks, the mortality by cholera and diarrhœa has equalled an annual death-rate of 33 per 10,000 persons living within the area supplied by the New River Company; the corresponding rates for the other fields of supply being 26 in the Southwark, Lambeth, and Kent districts; 41 in the Grand Junction, West Middlesex, and Chelsea districts; and 45 in the East London Company's districts.

In a case of the death of a child from choleraic diarrhœa, at 25, Cutler-street, Aldgate, it is stated that "the father of the child complains of the bad state of the drains under the house, and the stench arising from all kinds of filth accumulated near his door." Are the sanitary officers of this district out of town, or are they trying an experiment how to generate disease? The death is recorded of the daughter of an Italian warehouseman, aged seventeen years, after twenty-eight hours' illness, from "eating poisonous mushrooms." We may possibly hear of more fatalities of a like nature, if Mr. Worthington Smith's experiments on the edible qualities of fungi should attract many followers over the very tickliah ground he has managed to tread with a safety almost miraculous.

GALLANT CONDUCT OF AN ARMY MEDICAL OFFICER.

WE have just heard of a gallant exploit performed by Assistant-Surgeon C. M. Douglas, M.D., of the 2nd battalion of the 24th Regiment, which well deserves to be recorded.

On the 7th of May last a small force was despatched to one of the Andaman islands to ascertain the fate of the European crew of the *Assam Valley*, a vessel recently wrecked on that coast. The party landed with much difficulty, their boat having been swamped in the surf. After drying their ammunition, they proceeded inland, and soon found traces which left no doubt that the crew had been murdered by the natives. Meanwhile a discharge of arrows from the bush was kept up by the natives, in replying to which the remnant of ammunition was soon exhausted. The situation now became critical. The party were entirely cut off by the loss of their boat from the steamer which had conveyed them. They extemporised a raft, and tried to establish communication by its means with the boat in the offing, in which were Dr. Douglas, the assist.-surgeon, and four men of the 2nd batt. of the 24th Regiment. In this attempt an officer of the Indian army was drowned; the others were much exhausted, and the party would inevitably have fallen into the hands of the hostile natives—said to be cannibals, by the way,—had not "Dr. Douglas, with his soldier crew, at the risk of his own life, gallantly made three trips through the surf to the shore. This was accomplished by no ordinary exertion. He worked the boat in a seamanlike manner, cool to a degree, as if what he was then doing were an ordinary act of every-day life."

Such are the words of the despatch by the officer commanding the party, who attributes the rescue of himself and his men entirely to the gallant conduct of Dr. Douglas.

We are happy to hear that the Governor in Council concurs in the approbation expressed by his Excellency the Commander-in-chief at Madras, of the disinterested and intrepid conduct of Dr. Douglas, and has resolved to recommend him, and the four men of the 24th Regiment, to the special consideration of her Majesty's Government, through the Government of India.

Such prompt recognition of their services must be as gratifying to Dr. Douglas and his brave companions as it is creditable to the authorities.

THE YELLOW FEVER AT NEWCASTLE, JAMAICA.

WE have information from Jamaica to the 24th ult., up to which time there had been a total of twenty-six deaths among the military from yellow fever. The disease was declining; and now that the camping out of the troops has been effected, the hospital evacuated, and the sick removed to a new and very elevated locality, we may expect to hear that it has com-

pletely disappeared. During the last week of which we have information, there had been only two deaths; while for each of the two preceding weeks the deaths had been five among the troops at Newcastle. A detachment of black troops occupies the barracks, and furnishes the necessary guards in the infected localities.

Although this is not the first occasion on which yellow fever has appeared at Newcastle, the present outbreak appears to have been characterised by some exceptional features; and it seems to us to demand at least some careful investigation by a local committee, if only in view to a knowledge of the available sanitary capacities of the island during future epidemics. We have yellow fever prevailing at Newcastle without any such disease at Up-park Camp, Kingston, and Port Royal.

It may turn out, after all, that the immunity from yellow fever conferred by elevation above the sea level has not altogether depended upon the mere altitude and climate of a locality taking it out of the fever zone, but upon the fact that at such altitudes there has been but a sparsely distributed population, or none at all; that the soil was, therefore, free from all those animal contaminations arising from human occupation, and so on. When these conditions have been present for any length of time, the locality has acquired unhealthy and infectious properties, the operation of which the other and opposing conditions of climate, temperature, or good ventilation were unequal to prevent.

We regret to perceive that Dr. Richardson, an assistant-surgeon of H.M.'s army, is said to have lost his life from this disease.

THE EMPRESS CHARLOTTE.

THE comparatively secluded life which has hitherto been thought good for this unfortunate princess, in her depressed condition, is, we understand, now to be considerably modified. It is suggested that the coming winter should be passed at Madeira. In happier days the Archduchess of Austria wintered in that island, whilst Archduke Maximilian visited the Brazils, and her frequently expressed hope to return prompted the subsequent visit, *en route* to Mexico.

It is now sought to gratify constantly recurring recollections by the proposed change, and it is not improbable that the sunshine and quiet open-air life of Madeira may contribute much to restore the overtaxed powers of the Empress Charlotte.

THE SERJEANT-SURGEONCY.

WE only give expression to a feeling very general in the profession, and to some extent among the public too, when we express surprise at the long delay in filling up the vacant serjeant-surgeoncy. Sir Wm. Lawrence died on the 5th July; eleven weeks have therefore passed without the nomination of his successor—a period much longer than ordinarily elapses before such Court appointments are filled up. Some of the delay is no doubt due to the fact of the Court being away from London, and the Queen's advisers as to matters medical being scattered far and wide; but at the same time it rather derogates from the dignity of the appointment that such a lengthened vacancy should be permitted.

CANNIBALISM.

UNDER the above sensational heading the *South London Press* has for two weeks given circulation to a report that a student of one of the London hospitals had been guilty of the abominable action of cooking and eating a portion of a corpse. Although we regret to find that there is truth in the statement of the disgusting act having occurred, we are happy to be able to affirm, on the best authority, that no member of the body of medical students—who are gentlemen both by birth and education—had anything to do with the matter. The truth appears to be that a young assistant in the chemical laboratory at St. Thomas's Hospital either did eat, or, out of bravado, said he had cooked and eaten, a small piece of human flesh. We need hardly say that the authorities of St. Thomas's have taken immediate steps to exclude the youth in question from the hospital premises for the future, and have expressed in the strongest terms their sense of his foolish and indecent behaviour.

EVERY SOLDIER HIS OWN DOCTOR.

THE French Government seems determined to foster the practice of medicine in the ranks of its army, notwithstanding the collapse of the pretensions of the Zouave Jacob. According to the *Liberté*, "the authorities have just ordered 800,000 waistbelts, each having attached to it a small medicine-box. The latter will contain whatever is necessary to give, in a rough way, a first dressing to a wound, or to stop dysentery. The whole will cost about a million and a half of francs." We trust that the contents of the above-mentioned medicine-boxes will not prove of so powerful a nature as to be dangerous in ignorant hands, lest, like a certain army of old, the troops should find "when they rose up in the morning they were all dead men"!

ST. PANCRAS WORKHOUSE AND INFIRMARY.

THE first step taken by the new board of guardians of this parish, to carry out Mr. Hardy's Act, is scarcely creditable to their sagacity. They propose to substitute for the present medical officers, who have fulfilled their duty on all occasions satisfactorily, three unmarried medical gentlemen, two at a salary of £100 a year, and one at £200. Why dismiss their present officers at all? And why advertise for "unmarried" men? These are questions which should receive an answer.

THE EPIDEMIC AT MAURITIUS.

WE have information to the 18th of August last, up to which time the reports were satisfactory. The death-rate at Port Louis was very slightly in excess of the normal amount. A few cases of fever have appeared, we understand, in the Mahebourg district, which was the only military post that had escaped hitherto. Almost all the troops composing the force which served in the Mauritius during the epidemic have been removed from the command.

THE M'WILLIAM TESTIMONIAL FUND.

IT is gratifying to state that this fund has reached the handsome sum of £1239 15*s.* 6*d.*, of which £1200 have been invested for the benefit of the family in the names of trustees. Of the above sum, £800 was raised by the medical officers of the navy alone. Of the balance, £14 14*s.* have been paid to Mr. Butler, sculptor, for the medallion portrait now suspended in one of the rooms of the Royal College of Physicians; £16 to Mr. Edwards for 100 copies of a striking photograph; the remainder being devoted to the incidental expenses of printing, postage, stationery, &c. The honorary secretaries are Drs. Waller Lewis and Gavin Milroy.

THE returns for the last six weeks show a very satisfactory condition of the health of the City. The average number of deaths for the period is 291; the actual number is only 217. The deaths from tubercular disease were 41; from zymotic disease 16, excluding diarrhœa, which caused 28 deaths. The Inspector of Shipping inspected 247 ships, and found three of the forecastles and cabins requiring ventilation. We are disposed to say, *only three!* 57,449 lb. of meat was destroyed as unfit for food, and three persons were sentenced to fine or imprisonment for sending bad meat to market.

THE Registrar for England announces that regulations for the registration of medical students have been sent to all the

recognised Schools of Medicine in England. Students commencing their studies are directed to apply to him, according to the form with which they will be supplied on application to the several qualifying bodies, or at the schools of medicine and hospitals.

A CURIOUS work has been published at Breslau by Dr. Hermann Kohn, in which he gives the result of the examination of the eyes of 10,860 school children. Of these 17·1 per cent. were short-sighted. This he attributed to the faulty construction of the desks and forms, which required the children to read with the books close to their eyes.

A DEATH from chloroform occurred last week in the Southern Hospital, Liverpool. The patient was a boy, fifteen years of age, who was placed under chloroform for the purpose of undergoing an operation on the knee-joint. Everything went on favourably until the operation was completed, when the pulse of the patient suddenly ceased to beat. Artificial respiration was maintained for about an hour, and every effort used to restore the boy, but without avail. The medical evidence went to show that all possible care was taken in the administration of the chloroform, and the jury returned a verdict to the effect that the lad died from misadventure from the administration of chloroform during an operation.

THE medical officers' library at Aldershot is now in a state of great efficiency. Numerous volumes have lately been added to the collection.

Dr. H. B. MARSH has been elected Coroner for Worcestershire without a contest. He had officiated as Deputy-coroner for seven years.

THE CHOLERA.

OUR chronicle includes four weeks' news. In both hemispheres the epidemic is reported to have broken out in various places; but, as a rule, the outbreaks, although severe, are limited in area.

A correspondent of the *Pall Mall Gazette* states that, since the 9th of August, 237 persons have died of cholera at Rotterdam, 63 at Dordecht, and 62 at Zaandam. The Queen of the Netherlands had visited the cholera hospital in Rotterdam, and remained in the establishment an hour, speaking with the poor sufferers. The epidemic is said to be more virulent than last year.

During the week ending August the 15th, 66 cases of cholera occurred in Dantzic, and 39 deaths. During the week ending the 29th of August, 93 cases were reported in the city, and 42 deaths.

News from Berlin, on the 7th of September, states that cholera had appeared in Breslau, where about 3 cases and 2 deaths occurred daily. At Warsaw, Wilna, and in other parts of north-eastern Russia, the disease was somewhat more prevalent. At Elberfeld, where the epidemic is said to have committed serious ravages of late, the malady was on the decrease.

From Munich, on the 27th of August, we learn that cholera had broken out with some intensity, on the 5th of August, at Friesenheim, a small town, having a population of 1800, in the Bavarian Palatinate, near Manheim. The disease was decreasing on the 18th of August. The town is described as being situated on some low ground near the Rhine, and is reported to be very unwholesome. Bavaria proper was free from the epidemic at the dates given.

The epidemic has broken out in Messina. The following are the daily returns from the 19th August to the 4th September. The returns are made up from noon on the one day to noon on the day following.

	Cases.	Deaths.		Cases.	Deaths.
Aug. 19–20	48	37	Aug. 27–28	64	97
20–21	79	47	28–29	71	65
21–22	82	50	29–30	74	89
22–23	108	81	30–31	87	69
23–24	101	119	31–1 Sept.	68	40
24–25	83	100	Sept. 1–2	84	112
25–26	83	44	2–3	78	56
26–27	93	144	3–4	70	55

In Palermo and Catania the outbreak is rapidly diminishing. In the latter town, on the 20th August the cases had fallen to 14, and the deaths to 11. In the former town, on the 6th September the cases were 123, the deaths 57; the mortality having been, it is asserted, on a previous day 300, and the attacks 500! The population of Palermo was estimated at 584,929 in 1862.

The disease has appeared in Venice. The first case took place on the 25th July, and from that date to noon on the 12th August there were 26 attacks and 12 deaths. Three cases were reported prior to noon of the 12th August at Maestre, and at Chioggia 65 cases and 20 deaths to the same date.

In the commune of Rivolta d'Adda, province of Cremona, there were from the 20th June to the 31st July 387 cases (200 males and 187 females), and 198 deaths (106 males and 92 females).

The following return has been published for the province of Milan:—

From the commencement of the outbreak to the 31st July.

Districts.	Cases. Males.	Cases. Females.	Deaths. Males.	Deaths. Females.
Milan	582	504	305	206
Lodi	790	712	414	365
Gallarete	25	34	20	19
Abbiategrasso	29	14	12	6
Monza	70	47	51	26

City of Milan:—

	Cases.	Deaths.		Cases.	Deaths.
June 14th to July 12th	11	8	July 27th	3	1
13th & 14th	0	0	28th	7	5
15th	1	0	29th	5	5
16th	0	1	30th	6	4
17th	0	1	31st	6	5
18th	0	0	Aug. 1st	8	3
19th	10	3	2nd	3	5
20th	14	10	3rd	2	3
21st	4	6	4th	5	3
22nd	5	4	5th	7	4
23rd	9	2	6th	8	3
25th	6	5	9th	9	6
26th	2	5	Totals	131	92

Other items of news of the epidemic from Italy are as follows:—Naples, September 2nd. Number of cases last registered in the city, during twenty-four hours, 16; of deaths, 12. In Salerno, after a fall, a slight increase of the epidemic had occurred. In Rome the epidemic was said to be diminishing. "The number of deaths occasioned by the epidemic in that city, from the 9th of May, amount, according to the most moderate statement, to 1200; and in Albano, from the 6th of August, to 570." (*The Times* Correspondent). Later news of the same date (2nd of September) reports an increase of the epidemic in Rome and Albano.—Naples, September 5th. Cholera made its appearance here on the 31st of July, and has now declared itself more decidedly. "The acknowledged cases for the last four days (30th August to 2nd September inclusive) have been respectively 16, 37, 16, and 27; and the deaths 12, 21, 22, and 20,—a terrible proportion, showing how violent is the character of cholera this year throughout Southern Italy." (*The Times.*) The last report from Palermo gives 62 cases and 35 deaths. From Rome, the latest daily return is 33 cases and 25 deaths.—Albano, Sept. 11: No case of cholera for twelve days. Deaths from epidemic among the inhabitants, according to municipal register, 775.

The general news from Calabria and Sicily as to the state of the population under the infliction of the epidemic is horrible. Terrible excesses have been committed in Calabria by the ignorant peasantry. More than 80 persons are reported to have been murdered as suspected "poisoners," the epidemic being attributed to wilful scattering of lethal drugs. In Sicily the misery of famine is added to that of pestilence.

From Trieste, on the 22nd of August, it is reported that

cholera had assumed there an epidemic type from the 15th inst., but made little progress. From the first appearance of the disease, on the 29th of July, to the 22nd of August, 65 cases had been registered, and 37 deaths.

News from Ragusa, of the 17th August, states that only 3 cases of cholera had occurred in that city, and that the disease was declining in Montenegro and Herzgovina.

A report from Marseilles, dated the 8th of August, states that a few cases of cholera, and 1 death, had occurred in that city.

Malta.—Valetta, Sept. 3rd: Isolated cases of cholera are reported at Sliema and St. Dulcians.—Sept. 8th: Two companies of the 14th Regiment were placed under canvas on the 7th, owing to 3 deaths from cholera on the 6th inst., and 2 previously.—Sept. 15th: The 14th Regiment, after losing 9 men, has been removed to Gozo. The 8th Regiment is placed under canvas. One or two cases of cholera occur daily among the civil population.

Ireland.—Prior to the 26th of August 14 cases of cholera were reported to have occurred in Belfast. The first case took place on the 16th ult., and two cases happened on the 26th. The nature of the disease has since been questioned.

London:—

	1867.		1866.	
	Cholera.	Diarrhœa.	Cholera.	Diarrhœa.
Deaths week ending Aug. 24th	18	196	265	129
,, ,, 31st	22	226	198	128
,, Sept. 7th	20	198	157	132
,, ,, 14th	25	203	182	110

Africa.—A telegram from Tunis of the 4th inst. states that cholera has ceased there, and that clean bills of health are issued.

Asia.—A telegram from Constantinople, dated the 5th of September, states that cholera has broken out virulently at Teheran.

The United States.—The *New York Medical Record* for the 15th of August gives the following information respecting the progress of the epidemic in the United States:—

"The cholera appears to have manifested itself decidedly among the troops at Fort Larned and Dodge, and still prevails at Fort Harker, all of which are stations upon the great 'plains,' or prairies of the West, and designed more particularly as defences against Indian depredations. Exchanges say 'it is raging fearfully in Ellsworth, Kansas, the average mortality being ten a day.' A telegram has also been received at the War Department from Fort Leavenworth, Kansas, announcing the death of Lieutenant-Colonel George M. M'Gill, Assistant-Surgeon United States Army, by cholera, near old Fort Lyon, Colorado Territory, on the 20th ult. The telegram also stated that two companies of the Thirty-eighth United States Infantry passed old Fort Lyon on the 22nd ult., and reported having had twenty cases of cholera and seven deaths up to that time. Another account states that 'seven cases occurred in one family at Salina, Kansas, which resulted in three deaths.' In the lower grounds of the Mississippi Valley, particularly in the region of broken levées and neglected agricultural interests, the pestilence has likewise reared its head. The same is true of Arkansas, the plantations in the vicinity of Pine Bluff, Des Arc, and Helena having been sorely visited. A planter at the latter place lost twenty-five hands in one week. The mortality from the disease at Memphis, Tenn., at one time reached as high as 50 per day, but has since visibly declined. In our own city there have been no importations from abroad, although a few cases have been returned to the Health Board, not all of which, however, were regarded as authentic."

A recent telegram states that the epidemic had broken out seriously in Illinois, and that it is raging in the Indian territory.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

MEETING AT DUNDEE,

FROM THE 4TH TO THE 12TH OF SEPTEMBER, 1867.

SELDOM indeed has there been a larger gathering or a more successful meeting of the Association than that just terminated at Dundee—the third town in Scotland as regards population. The inhabitants of the town and its vicinity vied with one another to extend a hearty welcome to all, and especial care was taken to accommodate those who came so far north from remote distances. As usual, members of the medical profession were present from all parts of the kingdom, and lent their powerful aid towards the success of this annual gathering, by contributing papers of great value and interest. Our space will only permit us to briefly notice some of the more important. Judged by the standard of comparison presented by the *coup d'œil* of the work done at the meetings of the Association in general, and of Dundee in particular, a large share of it is the product of medical thought, and well demonstrates the scientific turn of mind of the medical philosopher.

Dr. SHARPEY was the president of the section in Biology, and presided over the department of Anatomy and Physiology. He delivered an opening Address, reviewing the present state of the science.

Dr. HUGHES BENNETT (of Edinburgh) contributed some "New Investigations to determine the Amount of the Bile secreted by the Liver, and how far this is influenced by Mercurials." He stated that although much had been written regarding the functions of the liver, and the action of mercurials upon it, very little exact information existed on the subject. Last winter a committee was formed in Edinburgh to reinvestigate the amount of bile secreted in health, and after the administration of mercurials. This committee was composed of Professors Christison and Maclagan, Drs. Rogers, Rutherford, Gamgee, Frazer, and Professor Bennett, the chairman and reporter. After studying all that had been previously published by authors, the committee made further experiments on dogs—animals best suited for the purpose. The results of four series of these experiments were given as to the amount of bile secreted, with and without mercury. In each case the weight of the animal was taken, a biliary fistula formed, the amount of food taken and analysed, and the secretion of bile for twenty-four hours measured, and its solids and salts ascertained. The greatest variations were found to exist in the amount of bile secreted daily, independently of the amount of food or other obvious cause. The same fact was observed when mercury was given. No conclusions were, however, drawn; and the author asked for a small grant to defray the expenses of further researches into the subject.

The PRESIDENT observed that the experiments made had led to no definite results, and the matter might be said to be still *sub judice*. He thought the experiments were worthy of pecuniary encouragement.

Mr. Nunneley, of Leeds, and others took part in the discussion.

Following this paper Dr. MICHAEL FOSTER exhibited some preparations by Professors Hering, Kolliker, and Eberle, showing the minute anastomosing passages by which the finest bile-ducts commence in the liver. The blue threads of the injection could be seen passing over and among the cells, but always arranged in a certain order, as explained by Dr. Foster. A similar series of preparations from the liver of the rabbit was exhibited by Professor Turner, of Edinburgh.

In a paper "On the Influence of Air on Vital Action as tested by the Air-Pump," by Dr. JOHN DAVY, the author described some experiments, showing how much longer some animals are capable of resisting privation of air than others. In one instance an egg was hatched, producing a healthy chicken, after having been acted upon by an air-pump twenty-six days. A young bird expired in about half a minute; a fish—a minnow—in about an hour; a frog and a toad in about the same time; an earthworm in about an hour and a half; insects, after apparent death for more than an hour, recovered on exposure to the air, and that repeatedly. Birds submerged in water lived from four to twenty minutes, according to the species. A buzzard lived twenty minutes, a fowl four minutes, and a goose or a duck ten minutes.

"On Certain Effects of the Concentrated Solar Rays upon the Tissues of Living Animals immersed in Water," formed a contribution by Dr. G. ROBINSON. His experiments showed that by concentrating the solar rays upon the skin of the hand under water the same immediate burning pain, followed by inflammation and vesication, was produced as if the part had been similarly heated in the air. The subaqueous concentration of the rays on any part of the surface of aquatic animals gave rise to instant pain, and when the focus could be retained for a few seconds on the head of a tadpole or small fish, death immediately resulted as from an electric shock. The writer endeavoured to show by a variety of considerations that this action was rather physiological than purely physical.

Dr. DAVY mentioned that, at the estuary of one of the best salmon rivers in Lewis, salmon were frequently found dead, in consequence of the great drought, and that there were decided marks of inflammation of the brain, bones of the head, and

the skin. He thought the subject deserving of further inquiry.

Considerable interest was manifested in a communication by Dr. RICHARDSON, of London, "On Coagulation of the Blood —a Correction of the Ammonia Theory," for in it the author withdrew his ammonia theory of coagulation. He referred to the facts which had led him to adopt his theory, and now explained why he abandoned it. Some recent experiments which he had made on the influence of heat and cold on albuminous and fibrinous fluids had shown him that the process of coagulation in these fluids is due to a communication of caloric force to them, and to a physical or molecular change, determined by the condition of their constituent water. Thus all substances which possess the power of holding blood in the fluid condition, through fixed alkalies, various soluble salts, and volatile alkali, in every respect act after the manner of cold. They render latent so much heat, and in the absence of that heat the fibrin remains fluid. In the opposite sense, every substance which combines with water, and produces condensation, with liberation of heat, quickens coagulation. The direct effects of heat and cold illustrate the same truth; and upon these facts turn the differences of coagulation in animals of different temperatures. The author further stated that in the ordinary condition there is a constant process similar to coagulation progressing in the living body in the formation or construction of muscle, and a steady and persistent interchange of force from these parts which are solidified by cold and fluidified by heat to those which are rendered solid by heat.

In the discussion which ensued, Mr. NUNNELEY observed that whether the theory which Dr. Richardson now advanced would prove more successful than the former one it would be difficult to say. A great many persons conceived there was a fallacy connected with his first theory, and of course there would be hesitation among members to accept without further consideration the one he had just proposed.

Mr. J. CRAWFORD read a paper, in Section E, "On the Vegetable and Animal Food of the Natives of Australia, in reference to Social Position; with a Comparison between the Australian and some other Races of Man." Nothing of animal life came amiss to the ever-hungry Australians, who devoured alike all mammals, birds, reptiles, fish, and insects. Amongst the last were large catterpillars which feed on the wattee-tree, and the larvæ of a black ant. Mr. Gould had said that the catterpillars, when nicely roasted over a wood fire, were very good, but the ant-eggs made him sick. Although corn and cattle have been presented to the Australians in abundance during three generations, they have never grown a plant or bred an animal, but are now the same naked, houseless, wandering savages, living on the wild productions of the earth, that they were when first seen by civilised man.

Two excellent papers were read in the Economic Section, one by Sir JOHN BOWRING, "On Productive Labour in Prisons as associated with the Reformation of Criminals," the other, by Mr. JAMES OLDHAM, of Hull, "On the Utilisation or more profitable Employment of Male Convicts." The clearing of the beds and channels of our rivers was the mode suggested in the latter paper.

Professor WANKLYN read a paper "On the Existence of Putrescible Matter in River and Lake Waters," in which he detailed several analyses which he had made in seeking to detect the presence of organic matter in London water.

A paper of considerable interest, as affecting a portion of our daily food, was read by Dr. COBBOLD, entitled "Remarks on the Entozoa of the Common Fowl and of Game Birds, in their supposed relation to the Grouse Disease." He said that the view entertained that the grouse disease was due to the presence of cestoid entozoa, or tapeworms, was entirely erroneous. The mere fact that in many instances tapeworms are found in the intestines of birds dying of the disease, afforded no positive proof of their real influence, especially as there was no evidence to show that the parasites were more abundant than usual. He was not prepared to say what was the cause of the grouse disease, but it had no necessary connexion either with the presence or absence of entozoa. No amount of tapeworms could ever give rise to gangrene and pyæmia of the liver and lungs, as obtains in birds dying of the grouse disorder; and even in cases where the parasites are sufficiently numerous to prove fatal to the bearer of them, death never supervenes in the manner shown in the grouse affection. He showed a list of avian entozoa, to prove that we were not entirely ignorant of the varieties liable to infest our game birds. The list comprised about twenty forms of worms. The Rev. H. B. TRISTRAM remarked that by extirpating from their land birds of prey, they had engendered disease among game. He one day counted no less than sixty-seven birds of prey in Tunis, and it really swarmed with game. Birds of prey always attacked the birds which rose last, and were weakest, and thus the spread of disease was prevented. Mr. BUSK, the chairman, concurred in the remarks of Mr. Tristram, and said he believed that the destruction of birds of prey committed the mischief it was intended to prevent.

Professor C. MARTINS (of Montpellier) exhibited some osteological preparations, with photographs, to illustrate the comparison of limbs deduced by the torsion of the humerus. His observations were made in French, and an active discussion ensued, in which the President of the Section, Dr. Sharpey, Professor Thomson (of Glasgow), Professor Cleland, Mr. Nunneley, and others, took part.

"On the Adaptation of the Structure of the Shell of the Bird's Egg to the Function of Respiration," formed the subject of a communication by Dr. OGILVIE. Its principal object was to show the constant occurrence of a cavernous stratum on the interior of the eggshell, formed by a series of warty excrescences from the calcareous crust, and covered in by the lining membrane of the shell, which adhered so intimately to the points of the tubercles that a fleecy film is always left when the membrane is torn off from the inside of the shell, and in many cases can be removed only by a process of calcination. The penetration of the external air into the cavernous structure, through the overlying stratum of the calcareous crust, is facilitated by the pore-like pits on the outside of the shell, which may be shown by the permeation of coloured liquids to furnish an indirect communication with the vacuities of the deep layer, either by fissures or cracks passing between them, or by the more pervious nature of the intervening track.

In a "Contribution to the Anatomy of the Pilot Whale," Professor TURNER described the distribution of the great arteries which arise from the arch of the aorta, and some features in the cervical vertebræ. A greater number of compartments existed in the stomach of the pilot whale than in the porpoise.

Sir DUNCAN GIBB read a paper "On the Vocal and other Influences upon Mankind of Pendency of the Epiglottis." In a series of experimental inquiries carried on during the last seven years with the laryngoscope, in healthy persons of both sexes and of different ages, from the infant to the very old man, and of varying positions in life, he had discovered, in a total of 4600 Europeans, that the epiglottis was pendent in 513—equivalent to 11 per cent. and a fraction. In some 280 natives of India, China and other parts of Asia, and various parts of Africa, nearly all had the epiglottis pendent, in the two sexes and at all ages, from young negro boys upwards. He was, however, not disposed to speculate on the latter, but confined his observations to the former. The influences observed were a modification or alteration of the natural voice, with a tendency towards a bass tone in males. The singing voice was materially altered, and, in the female sex, the higher notes could not be produced at all in some persons, whilst in others their vocal power and compass were weakened. Young girls with pendency could never become singers of any note, and the voice in them, as well as in boys, in speaking, is not clear and silvery as it ought to be. He dwelt upon the constitutional effects of pendency of the epiglottis, and the predisposition to epidemic disease which it engendered.

A discussion ensued, in which the President of the Section, Mr. Nunneley, Dr. Ogilvie, Dr. John Davy, and the Rev. C. H. Cholmeley took part.

Dr. M'INTOSH made a communication "On Experiments with Poisons &c. on Young Salmon." Aconite, digitalis, chloroform, morphia, ether, creasote, ammonia, and bleaching powder, were the substances used. The various effects of these were described. Bleaching powder in solution was excessively fatal. Aconite increased the auricular and lessened the ventricular contraction, so that for every two contractions of the former there was but one of the latter. The rapid regeneration of textures after operations on the young fish was also referred to.

Prof. HUGHES BENNETT read a paper "On Protogon in relation to the Molecular Theory of Organisation," which was not discussed.

Dr. B. W. RICHARDSON followed with a communication "On some Effects produced by applying Extreme Cold to certain parts of the Nervous System." He proceeded to perform his well-known experiments with ether spray. He next explained the effects of extreme cold on parts of the nervous system; and minutely described the effects of extreme cold on the trunks of nerves, on the brain as a whole, on parts of the

brain, on the cerebellum, on the medulla oblongata, on the spinal cord, on the whole of the brain and spinal cord, and on the spinal cord in animals under the influence of strychnia (tetanus). He maintained, as a demonstration, that all the activity and function of the nervous system could be removed by the simple process of abstracting caloric; and that all the functions and activity are restored on the restoration of caloric. He held that each centre of the nervous system is an independent centre of power. He urged that between these centres there were certain balances always sustained during life. Thus, two centres in the front of the brain govern the movement of the body backwards, while the cerebellum governs the forward or propulsive movements of the body. But these centres balance each other so perfectly that, if one be temporarily killed, the other exerts uncontrolled sway, and the animal moves impulsively backwards or forwards, according to the part which remains in full power.

A paper, "On the Prevalence of Spedalske or Leprosy in the Kingdom of Norway," was read, in the Economic Section, by Mr. HENRY J. KER PORTER. In 1866, he visited the leper hospitals at Moldé and at Bergen. The different phases of the malady were similar to those in lepers he had formerly seen about the outer walls of Jerusalem, which he described. He also described the various occupations of the inmates. The governor handled the diseased parts, to show there was no danger from contagion. Medical inspectors are sent by the Government to induce all who are lepers to betake themselves to the hospitals, which are extremely well managed, and those who are paupers are refused parochial relief unless they accept the aid provided in those asylums for their benefit. In 1864 there were 2182 cases of leprosy in Norway; in 1856 the number was 2113. Sir JOHN BOWRING believed that the absence of leprosy from this country was owing in great measure to sanitary improvements. In India, in the remote villages, he had seen the disease in its most offensive state. Dr. WEBSTER doubted whether the leprosy of Norway were similar to the disease known to the ancients. Dr. BROWN attributed the disease in India to the low state of civilisation. Professor ROGERS said the most virulent form of the disease existed in Crete.

Of papers worthy of mention were, "On the Condition and Progress of Scotland in relation to England and Ireland, in Population, Education, Wealth, Taxation, Crime, Consumption of Spirits, Savings' Banks, &c.," by Professor LEONE LEVI; "On the Future Administration of the Natural History Collections of the British Museum," by Mr. A. MURRAY; "On Polliniferous Ovules in a Rose," by Dr. MAXWELL T. MASTERS; "On certain Simulations of Vegetable Growths," by Dr. HEATON; and "An Abnormal Leaf of Prunus Laurocerasus," by Professor DICKSON.

Mr. JOHN CRAWFORD read a paper on the "Antiquity of Man;" and another on "The Complexion, Hair, and Eyes, as Tests of the Races of Men." At the outset, he considered the conditions in the last named as a very ambiguous test of the races of men, whether taken separately or conjointly. The complexion or colour of the skin, so far as the integuments were concerned, was the most conspicuous distinction of race. The eye followed next; its position he dwelt upon as occurring in the European races, and amongst the Chinese and Tartars. Some had fancied that colour in men depended on climate, or that a powerful sun made the complexion more or less black, while a weaker one left it to improve in fairness in proportion to its feebleness. This popular error arose out of the narrow experience of our ancestors. He gave a number of facts that he said at once disposed of the hypothesis of climate being the cause of colour in the human complexion. As to the real cause of variety of colour, it was one of those inscrutable mysteries which they could not solve, any more than they could account for the varieties of colour in the lower animals.

Dr. B. W. RICHARDSON read a "Report on Methyl Compounds in relation to their Physiological Action." This was his fourth report on the subject. These compounds, he said, were of unusual interest, inasmuch as the poisonous gas known as fire-damp, and the beneficial agent chloroform, were included in the group. He divided the substances to be described, in regard to their physiological action, into two distinct groups, with their chemical characters, giving first in detail a list of the Methyl series. He next discussed the action of these various substances in detail. The report was a very long and highly valuable one, and elicited an active discussion, in which Mr. Nunneley (of Leeds), Dr. Grainger Stewart, Mr. Wentworth Scott, Dr. Michael Foster, and the President, Dr. Sharpey, took part.

A paper of great value, "On the Antiseptic Properties of the Sulphides," was contributed by Dr. POLLI, of Milan. He had undertaken an investigation as to the action of the sulphites of lime, hyposulphite of magnesia, sulphite of magnesia, sulphite of soda, and granulated sulphite. These substances were found to possess all the properties of sulphurous acid, with the advantage that their action was more uniform, certain, and constant. Both on animals and on himself he found that large doses could be taken without risk. On killing animals treated with sulphites, and others not so treated, he found that the former were more slow to decompose, and, indeed, remained quite fresh when the others were putrescent and offensive. In another series of experiments the sulphites were efficient to cure, more or less rapidly, cases where blood-poisoning was present, as in fevers. This was attributed to their antiseptic properties. The author thought his observations conclusive as to the excellent influence of the sulphites on the septic diseases, and remarked that it was for the purpose of benefiting others that he had brought his researches under the attention of the scientific world.

Dr. JOHN DAVY remarked that sulphurous acid had long been known for its remarkable antiseptic power. Professor TURNER observed that Dr. Dewar, of Kirkcaldy, had recently called attention to the use of sulphurous fumes in relieving various forms of consumptive disease, and had shown their value in cases of cattle plague two years ago, when it was rife in Fife. He also referred to the use of sulphurous acid gas for the preservation of meat. Dr. DAVY preserved a chicken several days in sulphurous acid gas, in the Ionian Islands, in the heat of summer, and when cooked it was fresh and tender. Dr. PATTISON, of Edinburgh, following Dr. Dewar, had observed beneficial results in cases of consumption from the use of sulphurous fumes, which evidently stopped the decay.

Professor ALLEN THOMSON exhibited "Microscopical Preparations of the Cochlea, Retina, and Teeth of Fossil Fishes," and gave explanations, remarking upon the points of interest which they evolved.

"The Epithelium of the Cornea of the Ox in relation to the growth of Stratified Epithelium," and "On some points connected with the Joints and Ligaments of the Hand," formed the subjects of two practical papers by Professor CLELAND, upon which a lively discussion ensued.

The same gentleman exhibited a microscopical preparation of the "Nerves of the Cornea." He had found minute canals converging inwards over the anterior capsule of the lens from the canal of Petit, and had succeeded in injecting them with carmine.

Mr. E. RAY LANKESTER read an account of some "Observations with the Spectroscope on Animal Colouring Matters," which possessed great variety and ingenuity. His experiments were made upon various coloured substances in the lower animals. By this means he had detected chlorophyl in hydra and the fresh-water sponge, which had before been suspected, but never proved. In various worms, in an insect larva, and in a mollusc, he had found the same red substance (cruorine) discovered by Stokes in the blood of man and vertebrates. This was remarkable, as the red matter was deficient in nearly all molluscs and insects. A new green colouring matter was found in the blood of some annelids. A large number of orange, red, green, and yellow pigments were obtainable in solution by ether, from marine sponges, polyzoa, crustacea, and other animals, but none of these gave definite absorption bands with the spectrum, by which they could be recognised and determined. Complimentary observations upon the author's paper were made by Dr. Foster, Professor Turner, and the President, Professor Sharpey.

Dr. COLLINGWOOD communicated some "Observations on the Habits of Flying Fish," stating, among other interesting matter, that the appearance of these fish above water was due, not to any sportive instinct, but solely to their endeavours to escape from their enemies.

"The Phenomena of Life and Mind," was the subject of a paper by Mr. ROBERT DUNN, of London. The agency of matter and the physical forces was as essential to the manifestation of life as life itself was to the display of intelligence. Yet they were not to confound the vital and mental forces with the physical, for the truly vital phenomena—the processes of formation, growth, and multiplication—occurred in living beings only; whereas the development of light, heat, and electricity, whether they occurred in living organisms or in inanimate matter, were purely physical phenomena. The living germinal matter of the organisation was alone the seat of vital actions. All attempts to give vitality by means of the physical forces to

inanimate matter had been vain and futile. The other part of Mr. Dunn's paper referred to the action of mind, and was almost purely metaphysical.

A paper "On Life, its Origin, Nature," &c., followed, by Mr. P. MELVILLE.

A discussion ensued on the two papers, in which Professor Cleland, Dr. Page, Dr. Richardson, Dr. James Hunt, and others took part.

The PRESIDENT, in summing up, remarked that while the subjects were quite legitimately brought up for discussion, the papers should have been more argumentative, and have proceeded either upon new facts or upon a suitable representation of data previously obtained.

"On the Presence of Alkaloids in the Animal Economy," was the subject of a paper by Dr. WENTWORTH SCOTT, submitted by Professor Turner.

A paper, "On the Supposed Plurality of the Races of Man," was read by Mr. J. CRAWFORD, in which he gave a series of facts bearing on the question. If these facts were trustworthy, the arguments for the unity of man are fallacious, and the conclusion we must come to is, that the different races of man are as really distinct species as are any of the closely allied species of the lower animals; that man, in short, like the lower animals, consists of a genus comprising many species, due allowance being made for the inexpressible disparity which exists between him and the most highly organised of the lower animals.

Of kindred subjects may be mentioned, "On the Character of the Negro, chiefly in relation to Industrial Habits," by Dr. JOHN DAVY; "On the Origin of Civilisation, and the Early Condition of Man," by Sir JOHN LUBBOCK; "Third Report of the Committee for the Exploration of Kent's Cavern, Devonshire," by Mr. PENGELLY; and "Notice of Recent Discoveries in the Caves of Gibraltar," communicated by Mr. G. BUSK.

Other interesting papers were, "On the Internal Heat of the Earth," by Dr. JULIUS SCHVAREZ; "On British Fossil Cycadeæ," by Mr. W. CARRUTHERS; "On a New Form of Cephalopodous Ova," by Dr. C. COLLINGWOOD; "On the Abnormal Forms of Ferns," by Mr. E. J. LOWE; "Notice of some Rare Plants found in Scotland," by Professor BALFOUR; and "On the Occurrence of a New British Moss in Dovedale," by Dr. FRASER.

The concluding meeting of the Association took place on Wednesday, the 11th inst., when it was announced that the next place of meeting would be Norwich.

REPORT OF THE INTERNATIONAL MEDICAL CONGRESS

HELD IN PARIS.

FIFTH DAY, WEDNESDAY, AUGUST 21ST.

AFTERNOON MEETING.

M. BOUILLAUD IN THE CHAIR.

THIS sitting, which may fairly be called the surgical *séance* of the Congress, proved of unusual interest. The question of the day was of great importance; indeed, was one of the best upon the programme. The auditory was numerous, and remained attentive to the last. Some good papers were read; and, thanks to the initiative of Mr. de Méric, who endeavoured, as he said, to give a *teinte Britannique* to the Congress, there was some real extemporaneous discussion towards the end of the sitting. The great surgical celebrities of Paris were absent, it is true. Poor Velpeau was then on the eve of his death. Nélaton was doubtless too much occupied elsewhere to grace the Congress with his presence. MM. Denonvilliers, Giraldès, Chassaignac, Broca, Richet, &c., if present, did not take any part the proceedings; while Maisonneuve and Demarquay, who have both recently written a good deal on the *sequelæ* of surgical wounds, were nowhere to be seen. Yet such distinguished surgeons as MM. Gosselin, Verneuil, and Broca read excellent papers, and were much applauded. The provincial towns of France were well represented by M. Bourgade, of Clermont Ferrand; and M. Labat, of Bordeaux. From Lisbon Prof. Barbosa read a substantial and interesting memoir. Mr. de Méric stood up for English surgery; he vindicated its fair conquests and achievements, and insisted on the excellent hygienic measures which are adopted in English hospitals. Though he extolled a rival school of surgery, his discourse proved quite a success. He won the good graces of his auditory by his many witty remarks and happy allusions; while the *teinte Britannique* of his manner—to wit, the sensible and practical turn of his remarks, joined to an easy, off-hand style of delivery—seemed quite a relish to the Gallic portion of the audience. Indeed, the editor of a leading French medical journal of this city whispered in my ear that it was quite "étonnant combien le délégué Anglais avait de l'esprit."

M. BOURGADE, of Clermont Ferrand, in an elegantly written and substantial memoir, extolled the "Beneficial Effects of Perchloride of Iron in the Dressing of Surgical Wounds"—so beneficial, indeed, that of ninety-five operations which he had performed at the Hôtel Dieu of Clermont Ferrand, and which involved such serious procedures as excision of the breast, amputation of the thigh, &c., death had not occurred in one single instance. With regard to the general accidents which bring on death subsequently to surgical operations, he said that he would lay down three propositions:—1. These accidents were not generally observed in rural districts, whereas they were frequent in large towns, hospitals, ambulances, &c. 2. Even in these last conditions, they rarely supervene after the use of caustics, but frequently after the employment of the knife. 3. When once developed they are almost always fatal. Therefore, their development must be *prevented*. But to effect this, their causes must be known. From the propositions which he had just laid down, it was obvious that wherever a great agglomeration of people existed, there arose some cause which exercised a fatal influence on the cure of wounds exposed to the action of air. If wounds resulting from caustic got cured, it was because the slough withdrew them from the influence of the noxious cause. Yet the knife must still be the most common and useful agent in the hands of the surgeon. How then could it be managed to withdraw wounds occasioned by the cutting instrument from the noxious influence of air? Mr. Bourgade said that for this purpose the perchloride of iron was an invaluable means. The mode of employment was as follows: After having finished the operation, applied ligatures, washed the wound, &c., he covered the whole of the surface with lint steeped in a solution of perchloride of iron. All the divided tissues, bone, vessels, nerves, &c., must be submitted to the action of the remedy. The lint must be left in the situation until suppuration causes it to fall off. A solid mass is thus produced, an actual magma, which acts in the way of a slough, and preserves the wound from the noxious action of air. Nay, there did exist a real cauterisation of the parts through the caustic action of the perchloride. This slough fell off in turn in the space of a few days, and exposed a healthy surface, which M. Bourgade then dressed with aromatic wine. Thus employed, his mode of treatment had been successful in ninety-five cases in which it had been tried. It might be recommended in all cases, and it prevented purulent infection, putrid infection, phlebitis, angioleucitis, osteomyelitis, and subsequent hæmorrhage. Of course, good hygienic measures must be coupled with the local treatment.

Professor BARBOSA (of Lisbon), delegate of the Portuguese Government, read a memoir entitled, "Statistical Notes upon the Principal Operations performed at the St. Joseph Hospital of Lisbon, during the last Twelve Years," in which he examined (1) the statistics of mortality compared with those of the hospitals of other countries; (2) the causes which brought on death after the performance of the operations; and (3) the respective influence of race, climate, diet, modes of dressing and treating wounds, and general hygiene, on the results of the operations. In respect to the first question, the author said that his statistics gave a great advantage to his hospital, particularly over those of France. After having mentioned the causes which immediately brought on death, he proceeded to study the influence of general causes. The question of race was of no importance, he said, but climate exercised great influence: that of Lisbon was particularly favourable. Good hygienic conditions were of the utmost utility. The wards for the patients should be isolated, spacious, well ventilated, and situated as far as possible in rural districts, &c. He insisted on the great care which should be given to the proper dressing of wounds after operations.

Professor GOSSELIN, Professor of Clinical Surgery at La Pitié, read a paper "On the Prophylaxy of Erysipelas and of Purulent Infection in Surgical Wards." The author said that he had been led to believe in the infectious and contagious nature of erysipelas. Speaking of the prophylactic treatment of the disease, he insisted on the full ventilation of the wards, a limited number of inmates, frequent opening of windows, &c. The employment of these means had considerably

diminished the number of serious and fatal cases in his wards at La Pitié. Incidentally he mentioned that, in his statistical accounts, females were oftener attacked by erysipelas, and died more frequently from it, than males. He said that he had obtained excellent results from the isolation of patients, and from performing, in all cases in which it was possible, such operations only as did not lead to erysipelas, such as the employment of caustics, &c. With regard to the prophylaxy of purulent infection, M. Gosselin attached great importance to the general management of patients, and to the use of various precautions. Among these he mentioned the necessity of keeping up the spirits of the patients, the ligature of the smallest vessels, the use of anæsthetics to avoid pain, the abandonment of complicated dressings, and of all the processes which involve immediate reunion, &c.

THE LATE MR. JOHN PROPERT.

No member of the medical profession was better or more generally known than the late John Propert. He was the acknowledged head in this metropolis, and, indeed, it may be said throughout the country, of the surgeons in general practice. For upwards of half a century he had an extensive and lucrative practice; and died on the 8th inst., it may be truly said—"in harness." He was the only son of Thomas Propert, Esq., of Bluenpistill, in the county of Cardigan, and was born on the 15th of July, 1793. Mr. John Propert was educated at the grammar school of Cardigan; and, when only fifteen years of age, "joined one of the regiments of the county Militia, and carried the colours at the jubilee of George the Third, October, 1809." He was subsequently articled to Mr. Noot, a respectable practitioner in the town, in whose dispensary he was principally occupied in making up medicines. In October, 1811, he entered St. Bartholomew's Hospital as a perpetual pupil. Six months afterwards he passed the examination for naval surgeon at the Royal College of Surgeons. He remained in the navy for a very short period, returned to London to pursue his medical studies, and obtained his diploma in 1814. Immediately afterwards he commenced practice in Norton-street, Portland-place. Of a handsome and striking person, with habits of industry and perseverance, and a competent knowledge of his profession, he rapidly rose in the estimation of the public, and attained a considerable practice.

His professional life was singularly successful, and was marked by no events calling for particular notice. His private life was equally prosperous. He married early, and was happy in all his family relations. We now come to a period in the life of Mr. Propert from which must be dated the establishment of the just eminence which he afterwards attained.

About the year 1848, he consented to be one of the trustees of a society which had for its object the protection of medical practitioners, chiefly, however, the collection of debts due to them from a large class of their patients, who neither appreciated their kindness, nor paid them for their services. From some cause or other, this society suddenly collapsed, being indebted to its members to a very large amount. Mr. Propert, with a chivalrous sense of honour, felt himself called upon, as trustee, to incur a great pecuniary responsibility; though he had had, in reality, no share in the management of the unfortunate institution with which his name was associated. During the "winding-up" of the society he was astonished at the great distress which prevailed amongst the larger class of his fellow-practitioners. The downfall of the Medical Protection Society was the proximate cause of the establishment of the Royal Medical College. With his usual energy and perseverance, he immediately set to work to inaugurate this institution. At first the scheme was thought to be Utopian, and it was generally believed that success would never be attained. Nothing daunted, however, he succeeded in enlisting in the cause many of his influential patients, as well as his professional friends. Meetings were held, subscriptions were received, and, in a remarkably short space of time, a charter was obtained for the Royal Medical College, and ultimately the great institution at Epsom was not only founded, but in full operation. It is only right here to state, *en passant*, that to the late Earl Manvers the members of our profession owe a deep debt of gratitude. He gave the influence of his name as president, contributed large sums, and advocated the claims of the College on many occasions. Bred a sailor, and with all the generous instincts of a British tar, his "unadorned eloquence" did much for the success of the "Propert College." Those who recollect the late venerable nobleman, when presiding at the annual festivals, will bear testimony to his zeal, his singleness of purpose, and to his unostentatious beneficence.

The Epsom College was founded for the purpose of giving a liberal education to the sons of medical practitioners, some as foundation scholars without payment, some who paid moderately for a good education. It also provided for the housing and maintenance of a certain number of "decayed" practitioners or their widows. The College is now in full and successful operation. Like all institutions of a similar character, its progress has not been without difficulties and shortcomings. From time to time we have commented upon these in our pages. Never in a spirit of censoriousness or depreciation, but simply in the exercise of a duty incumbent upon a public journal. We never lost sight of the fact that it was a great undertaking,—that it was entitled to the support of the profession and the public,—and that its success was chiefly due to the generous labours of one man, John Propert.

Those who estimate the "eminence" of a man by the good that he has done in his generation will place the name of John Propert high in the list of fame. His memory will not be associated with any great discoveries either in relation to the cause or cure of diseases, but in the hearts and affection of the members of the medical profession it will occupy a place second to none of its benefactors. Mr. Propert had the enviable privilege of living to see the full fruition of his benevolent labours. This was due mainly to his remarkable perseverance, his unflagging industry, and to his tenacity of purpose. His was a labour of love; he allowed nothing to interpose between himself and the object he had in view. A man of less determination of character would have sunk under the difficulties he had to encounter, or would have retired disgusted with the lukewarmness of "friends," or the opposition of "enemies." Fortunately for the cause of humanity, John Propert was made of that "sterner stuff" which ignores opposition, and rises above the temporary backsliding of supporters. It has been stated that there was somewhat of vanity in his composition; that when he characterised himself as a "poor Welsh apothecary," it was the mere enunciation of "the pride that apes humility." To endorse this, however, would be a grievous mistake. We regard it in a very different light. It was the expression of the honest pride of a man who, without any false modesty or offensive arrogance, felt that he had done a great service.

Before concluding this sketch of our late lamented brother, we ask the Council of the College at Epsom to do what would be only scant honour to his memory. Again and again have we remonstrated in the pages of THE LANCET against the title of the College which he not only founded, but to a certain extent endowed. That College should be associated in time to come with his honoured name. He founded it, he supported it by large contributions, and in fact made it what it is. For the future then let us never mention it without that association. It is *de facto* the Royal Propert College. We who survive him are bound to see that that should be its designation. Of course, Mr. Propert could not have devoted some of the last years of his life to the object he had so much at heart had he not in the person of his son, Mr. J. L. Propert, an able assistant and successor to him in his practice. Without such assistance it would have been impossible for him to have done what he has done.

Mr. Propert was appointed Sheriff of Cardiganshire, which office he filled with dignity and hospitality. On the day of his funeral his neighbours testified their admiration of him by all the signs of mourning.

DEATH OF M. RAYER.

THIS highly-esteemed physician breathed his last on the 12th inst., and thus sinks into the grave one of the most conspicuous, successful, talented, and benevolent medical men of our period. Like the lamented Velpeau, who preceded him but a short time on the mournful journey, M. Rayer owed his exalted position to incessant labour and indomitable industry. He falls ripe in years, having reached the age of seventy-four, but engaged to the last in scientific labours, in the active practice of his profession among the highest ranks of society, and

in the superintendence of a medical association which embraces the whole country, and was founded by him for the relief of our necessitous brethren.

The deceased had long retired from hospital duties, but it was during his nosocomial career that he laid the foundation of his great reputation. From the careful watching of cases, he was able to give to the profession his great work on Renal Diseases; and it was he who discovered the possibility of the transmission of glanders from the horse to man. In fact, M. Rayer was the founder of comparative pathology, so much so that he belonged to the Academy of Sciences, not as a physician, but as a rural economist and veterinary investigator.

As early as 1814 he was appointed *interne* (resident physician), and in 1823 entered the Saint Antoine Hospital, whence he was transferred to the Charité. It was in this institution that he began to show his keen spirit of observation; and thence arose those great works (among which may be mentioned the book on Skin Diseases) which established his reputation.

When the age at which resignation becomes compulsory (sixty-five) had arrived, M. Rayer became Honorary Physician to the Paris Hospitals; but his colossal practice had then reached its highest point; and, favoured by great social gifts, consummate tact, a vast amount of experience, exquisitely winning manners, and continuous scientific labours, he took the most prominent place among his Parisian brethren.

It might be asked why Velpeau died almost in the wards, whilst Rayer had long left nosocomial labour when he was struck by the hand of death. The fact is that Velpeau was not only an hospital surgeon, but Professor of Clinical Surgery to the Faculty, a post which has no limit of age. In comparing the two men, a great difference is found in the mode by which they attained the pinnacle of fame. Velpeau was intimately connected with the Faculty: Rayer did not enter it until he had reached a comparatively great age; and, even then, it was a kind of revolution, a ministerial combination, which opened to him the gates of the Faculty. Velpeau had risen gradually through all the grades which the Paris school can bestow; Rayer kept long aloof from the latter, and soon resigned both his Professorship of Comparative Pathology and the office of Dean when it was found that his rule was the signal of disturbances. He never lectured. Ricord is, at the present time, similarly situated; he can boast of having attained every enviable distinction, save a professorship at the Faculty. But Rayer was otherwise engaged. As to worldly prospects, he had succeeded in numbering among his patients the most powerful and influential of the whole country, until he became the medical adviser of crowned heads. His connexion was of the most select kind, and he soon amassed a princely fortune. These favourable circumstances did not diminish his love of science; and anxious that pathological inquiries should be systematized, he founded the Biological Society, of which he was the permanent president. The amount of facts bearing upon the phenomena of life which have been brought to light by this society is enormous; these facts, *when classified*, will form an extremely valuable fount of knowledge.

M. Rayer was conspicuous for his anxiety to help young workers in pathological inquiries, and hosts of these, who have since become eminent men, for instance, Bernard and Robin, are indebted to him for early assistance.

Besides being physician to the Emperor, M. Rayer held several high medical offices in the gift of the State; amongst these may be named the Presidency of the Board of Health. Nor must it be forgotten that the deceased used his great influence to promote the welfare of many of his professional brethren. Nay, M. Rayer went further. Ten years ago, at the instigation, and with the valuable co-operation of M. Amédée Latour, the editor of *L'Union Médicale*, he founded the great Medical Benevolent Association, which includes medical men over the whole French territory. The Society is not strictly benevolent, but intended to facilitate mutual assistance. It has met with great success, and will remain a lasting and honourable monument to the memory of the deceased.

From this rapid sketch it may be gathered that the labours of M. Rayer were gigantic, and, up to a great age, he was equal to them, though borne down by the loss of his wife and a beloved daughter. It was, however, perceived a few years ago that health was giving way; a temporary lull took place, but apoplexy has within the last week terminated the life and great deeds of one of the ornaments of the French profession.

But Rayer did not imitate Trousseau in post mortem humility. The latter directed that he should be buried with simplicity, and that no discourses should be delivered at his funeral. The reverse has taken place here, for the grandeur with which Rayer was carried to the grave was princely, and perhaps too much so. It may be remembered, however, that filial affection was much concerned in the honours which were paid to the departed. Eight discourses were delivered; they were all very touching, and some actually eloquent. The orators had been delegated by the numerous learned bodies and government boards to which M. Rayer belonged. None of the speakers attempted a biographical sketch; they all referred to the labours of the deceased in their particular departments, and were unanimous in praising the lofty intelligence, excellent heart, and professional attainments of the departed. Rarely has it happened that the medical world had to deplore, within a short period, the death of such men as Lawrence, Trousseau, Velpeau, and Rayer.

Correspondence.

"Audi alteram partem."

CHOLERA IN THE MEDITERRANEAN STATIONS.

To the Editor of THE LANCET.

SIR,—In last Saturday's LANCET there is a notice of two official reports of mine on the sanitary improvement of Malta and Gibraltar. The last of these is an interim report, a few copies only of which were printed, about nine months ago, for the use of the local authorities in Gibraltar. My reason for asking you to be good enough to grant me space for a few remarks is, that there are two or three points raised for the first time by the writer of the notice which are of importance as regards the general history of cholera. These points were not discussed in either report because they were never adduced on the inquiry by persons conversant with the facts as they occurred. It happens, however, that the reports contain the required information about them. The first point may be shortly stated as follows:—Might not the outburst of cholera in Gibraltar be due to the water of a certain well used by the civil population having become infected by cholera dejections from a case which occurred in a soldier who had arrived from Malta? The facts are the following:—On a camping ground near the well in question the 2nd Battalion of the 22nd Regiment was encamped on its way from Malta to the Mauritius. On July 18th, 1865, a man in camp was attacked with cholera, and died on the morning of the 19th. The regiment was immediately cleared off the ground, so that any source of contamination was at once removed. The latrines in use consisted of wooden boxes, under cover, close to the seashore, at some distance from the well. These boxes were carried at low tide out into the sea, and there emptied as far as possible from the land. There are no cesspits. Water from the well in question is carried in barrels into Gibraltar, and is used by such of the population as have no other source of supply.

The first nine local deaths from cholera, in 1865, took place among troops, and civilians not living in the town; and none of these had used any water from the well. Their own water-supply is much nearer at hand. The first death among the town civil population took place on August the 20th, a month after the camp was vacated, in a house where the water in question was not used. There were 15 deaths among the town civil population, who derived their water from other sources, before there was a death (on August 27th) in a house where water from the camp well was in use. Afterwards houses were attacked indiscriminately, where water from all sources was used.

The next point refers to the possible importation of cholera by pilgrims into Malta, before quarantine against Egypt was established. The police return shows that 61 pilgrims were landed at Malta on May 31st, and the point raised by the writer of the notice is that these pilgrims infected in some way or other the soldiers' families in the plague hospital, where cholera broke out in 1865.

First as to the dates. The pilgrims arrived on May 31st; the first case of cholera in the plague hospital was on June 20th. Vessels from Egypt are anchored at a distance of from 500 to 600 yards from the plague hospital. Pilgrims are rowed in boats to the only landing-place, which is about 500 yards further away from the plague hospital. They would then climb the steep slopes to 100 feet or more above the sea-

level. Pilgrims usually walk about the busy streets of Valetta, making purchases to take home with them, either in the afternoon, or in a day or two. All this would take place more than three-quarters of a mile from the plague hospital, and separated from it by the harbour (1100 or 1200 yards of water). The hospital stands on an island. No connexion was ever traced, or, so far as came out on the inquiry, even suspected, between these pilgrims and subsequent cases of cholera in Valetta itself.

All the pilgrims were in good health. They had no communication with the plague hospital; and they had left Valetta for their homes at a time when only one pilgrim returning from Mecca had been seized with cholera, and that was in a camp in Egypt. As already stated, the first case, in a soldier's child in the plague hospital, took place nearly three weeks after they were gone.

One word more. The writer of the notice accuses me of either not knowing or ignoring what others had done in the scientific investigation of cholera. But the first pages of the reports show that my inquiry was purely a practical one, for ascertaining local causes of disease. I had no authority to enter into these questions, and my only reason for noticing any points regarding the importation and spread of cholera was what I have stated in the report—namely, that certain views on these subjects held in Malta were most adverse to sanitary improvement. All I have done is simply to bring these importation cases to the test of facts, and I have distinctly stated that the results neither affirmed nor disproved the communicability of cholera. In as far as regards my not having used the information furnished by the Cholera Conference, the writer of the notice could not know that the inquiry at Malta and Gibraltar was in progress before the Cholera Conference was in existence, and that it was by mere accident that both of my reports were not printed before the Conference report was agreed to. The imperfect previous information about the epidemic was what the authorities in Malta had to guide them at the time; and I have little doubt that their present information regarding affected countries is not a whit more satisfactory. What we really require in dealing with epidemics is what I have suggested—namely, an "account current" of the public health in countries where epidemics originate, and not *ex post facto* information.

I am, Sir, your obedient servant,

Sept. 9th, 1867. JOHN SUTHERLAND.

LONDON HOSPITAL GRIEVANCES.

To the Editor of THE LANCET.

SIR,—In your leading article of this day you charge me with having promised "to do all I could" for the successful candidate in a recent election. During my twenty years of office I have carefully avoided making any promise whatever to any candidate, and I have as carefully abstained from any partisanship whatever. The occurrence to which you refer was therefore simply impossible, and the assertion incorrect.

The smart paragraphs in which you have seen fit to indulge, with a view to raise a laugh at my expense, will no doubt amuse such of your readers as are not personally acquainted with me, and, I think, will equally disgust those who are. I leave them, therefore, without further notice, to perform their allotted task.

I am, Sir, your most obedient servant,

Sept. 7th, 1867. WM. J. NIXON.

Medical News.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Sept. 5th:—

Anderson, Robert, St. George's Hospital.
Billing, James Pymar, Apsley-place, Glasgow.
Johnson, Richard Locke, Charrington-street, Oakley-square.
Jones, Robert William, High-street, Poplar.
Little, Edward Moore, Shaw Melksham, Wilts.
Noon, Frederick, Newton-le-Willows, Lancashire.
Ridley, Joseph Simpson, Preston.

The following gentlemen passed on Sept. 12th:—

Braye, Hardwick Hubert, Wellington-square, Hastings.
Cornish, Edgcumbe, Tavistock, Devon.
Eddowes, Arthur Benjamin Jackson, Loughborough.
Howells, Thomas, Royal London Ophthalmic Hospital.
Howse, Henry Greenway, Henrietta-street, Bath.
Kemp, William George, Canterbury, Kent.

And on the last-mentioned day the following gentlemen passed their first examination:—

Edward Forbes Gaitskell and Richard Bowen Hogg, of Guy's Hospital; Francis de Havilland Hall, St. Bartholomew's Hospital.

IN Berlin, the policemen of all railway and police stations, and of the market places, have been furnished with galactometers, in order to put a stop to the adulteration of the milk, which is practised there on a great scale.

ACCORDING to a report from Vienna, in that city, during the last year, 12,943 legitimate, and 13,802 illegitimate, children have been born.

GEORGE WILLIS, M.D., and Justice of the Peace for the borough of Monmouth, has been appointed by the Lord Chancellor a magistrate for the county of Monmouth.

LONDON HOSPITAL. — The operation of Ligature of the Common Iliac Artery is expected to take place this day (Saturday), by Mr. Maunder, at 2 P.M.

THE German Congress of Naturalists and Physicians, which meets every year in one of the larger towns of Germany, was opened, on the 18th inst., at Frankfort-on-the-Maine. There has, this year, been established a new section *for public health*, the members of which are not only medical men, but also chemists, meteorologists, engineers, officials, and laymen. The topics this year to be discussed are:—(1), Etiology of typhus fever; (2), drainage; (3), the high rate of mortality amongst children.

REPRESENTATION OF THE UNIVERSITY OF LONDON.—An influential meeting was held in the committee room of Section D of the British Association at Dundee to further the election of Sir John Lubbock. Among those present were—Sir W. Thomson, President of Mathematical and Physical Section; Dr. Sharpey, President of the Section of Anatomy and Physiology; Prof. Busk, President of the Section of Zoology and Botany; Prof. Wheatstone, Prof. Sylvester, Prof. Tyndall, Prof. Allen Thomson, Prof. Ansted, Dr. Williamson, Mr. Gassiot, Prof. Hirst, Dr. Odling, Prof. Turner, Prof. M. Foster, Prof. G. C. Foster, Dr. A. C. Brown, &c. Professor Tyndall was in the chair; and it was proposed by Sir William Thomson, and seconded by Professor Williamson, and carried unanimously:—"That Sir John Lubbock, Bart., having been brought forward by an influential party among the graduates of the University of London, and an opportunity being thereby afforded of obtaining for science a representative in the House of Commons, it is highly desirable that those who are interested in science should do all in their power to assist in securing his election." Without expressing an opinion as to Sir John Lubbock's fitness to represent the London University, we question the propriety of using the meeting of the British Association in this way.

THE MEDICO-CHIRURGICAL SOCIETY OF GLASGOW.—At the meeting of this Society, held on the 6th inst., in the Hall of the Faculty of Physicians and Surgeons, St. Vincent-street, the following gentlemen were elected office-bearers for the present session:—President: Dr. Allen Thomson. Vice-Presidents: Dr. Coats, Dr. W. T. Gairdner. Council: Dr. Yeaman, Mr. Robertson (Renfrew), Dr. Dewar, Dr. Tindal, Dr. G. H. B. Macleod, Dr. A. R. Simpson, Dr. F. H. Thomson, Dr. Richmond (Paisley). Secretaries: Dr. James Adams, Dr. Robert Perry. Treasurer: Dr. H. R. Howatt.

MEDICAL VACANCIES.

Birmingham Lying-in Hospital—Resident Surgeon.
Carmarthenshire &c. Joint Lunatic Asylum—Medical Superintendent.
Dorset County Hospital—House-Surgeon, vice Mr. Bennett, deceased.
The Royal Hospital for Diseases of the Chest—Two Physicians, vice Dr. Richardson and Dr. Leared, resigned.
West Ham Dispensary—House-Surgeon and Dispenser.
Western General Dispensary—Physician in Ordinary.

MEDICAL APPOINTMENTS.

J. E. BENNETT, M.D., has been appointed Medical Officer and Public Vaccinator for District No. 4 of the Frome Union, Somersetshire, vice Wm. Croome, M.R.C.S.E., resigned.

Surg.-Major DOMENICHETTI, M.D., 75th Regt., has been appointed Principal Medical and Sanitary Officer at Gibraltar, vice Dr. Wm. Rutherford, C.B., D.I.G., who has proceeded on leave; Assist.-Surg. Murphy, L.M.C.P.L., 75th Regt., has been appointed to take medical charge of his Regiment, vice Surg.-Major Domenichetti, appointed P.M.O.

J. FOX, M.R.C.S.E., has been appointed Consulting Surgeon to the Dorset County and Weymouth Royal Eye Infirmary, on resigning as Surgeon.

J. C. GARMAN, M.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer of Health for Wednesbury, vice H. E. Proctor, L.R.C.P Ed., deceased.

W. HAXWORTH, M.R.C.S.E., has been appointed Medical Officer for District No. 3 of the Wetherby Union, vice J. Wood, M.D., resigned.

J. S. HUGHES, M.D., Professor of Surgery in the Royal College of Surgeons, Ireland, has been appointed Consulting Surgeon to the Coombe Lying-in Hospital, Dublin.

B. JONES, M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for District No. 2 of the Bangor and Beaumaris Union, vice Richard Thomas, M.R.C.S.E., resigned.

C. T. KELLAND, M.R.C.S.E., has been appointed Medical Officer for the Barking-road and Canning-town District of the West Ham Union, Essex.

J. KNOX, M.B., M.D., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Hartington District of the Bakewell Union.

J. W. LEACROFT, M.B., has been appointed Medical Officer for the Inkberrow District of the Alcester Union, Warwickshire, vice J. Morris, L.R.C.P.Ed., resigned.

R. F. MAYER, M.D., has been appointed Medical Officer and Public Vaccinator for the 3rd B District of the Honiton Union, Devon, vice J. S. Snook, M.R.C.S.E., whose appointment has expired.

Mr. H. F. PARSONS has been appointed Medical Officer for the 2nd Division of District No. 2, comprising the Ecclesiastical District of Rodd, in the Westbury and Whorwellsdown Union, Wiltshire, vice C. P. Combe, M.B., resigned.

T. B. PATTINSON, M.R.C.S.E., has been appointed Assistant Medical Officer to the Cornwall County Lunatic Asylum, Bodmin.

T. H. PINDER, M.R.C.S.E., has been appointed Physicians' Assistant at the Manchester Royal Infirmary Dispensary and Lunatic Hospital, vice Tattersall, whose appointment has expired.

J. A. ROBBINS, M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for No. 11 or Lynton District of the Barnstaple Union, vice J. R. Elliott, L.K.Q.C.P.I., resigned.

W. ROE, M.D., F.R.C.S.I., has been appointed one of the Demonstrators of Anatomy to the Royal College of Surgeons, Ireland.

D. TOPHAM, L.R.C.P.Ed., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Arvagh Dispensary District of the Cavan Union, vice J. Sproule, M.R.C.S.E., whose appointment has expired.

B. J. VERNON, F.R.C.S., has been appointed to the Curatorship of the Royal Ophthalmic Hospital Museum, Moorfields.

H. WILLSON, M.R.C.S.E., Medical Officer for District No. 7 of the Wycombe Union, Bucks, has been appointed also Public Vaccinator, vice J. T. Savory, M.R.C.S.E., deceased.

Mr. H. WORKMAN has been appointed Assistant to the House-Surgeon of the West Sussex, East Hants, and Chichester General Infirmary and Dispensary, vice Mr. H. F. Elliot, resigned.

J. W. YOUNG, M.D., has been appointed Physician to the Mountjoy Male and Female Government Prisons, Dublin.

Births, Marriages, and Deaths.

BIRTHS.

On the 15th of July, at Mortlake, Victoria, Australia, the wife of James Appleyard, Surgeon, of a son.

On the 8th ult., at Ootacamund, Neilgherries, the wife of W. H. Harris, M.D., Surgeon Madras Army, prematurely, of a son.

On the 29th ult., at Oxford-terrace, Hyde-park, the wife of T. Thorman, M.R.C.S., of a son.

On the 3rd inst., at Campbelton, Argyll, the wife of Wm. Gibson, M.D., of a son.

On the 3rd inst., at Rock Ferry, Cheshire, the wife of S. Spratly, M.D., of a son.

On the 8th inst., at Croydon, the wife of James Haslam, M.R.C.S.E., of a son.

On the 13th inst., at Boness, the wife of James Rutherford, M.D., F.R.C.P.E., of a son.

On the 13th inst., at Effingham House, Marquess-road, Canonbury, the wife of Robert Fish, M.R.C.S., of a son.

MARRIAGES.

On the 5th inst., at Christ Church, Eccleston, James Ricketts, L.R.C.P., &c., of St. Helens, to Grace Langsdale, only daughter of John Penketh, Esq., of Lime-grove, Eccleston.

On the 7th inst., at Christ Church, Highbury, W. Tilbury Fox, M.D., of Sackville-street, Piccadilly, son of Luther Owen Fox, M.D., F.R.C.S., of Broughton, Hants, to Sophia Campbell, the youngest daughter of Capt. W. F. Baker, R.N., of Highbury Grange.

On the 14th inst., Martin Brunjes, M.R.C.S.E., of Brook-street, Grosvenor-square, to Marian, daughter of J. Love, M.R.C.S.E., of Blenheim-crescent, Kensington-park.

DEATHS.

On the 12th of July, at Geelong, Australia, Sarah Dalley, the wife of John Macfarlane, Surgeon, aged 55.

On the 4th inst., at Avon-bridge Cottage, Barford, Warwickshire, Burrows Kirby, M.D., aged 50.

On the 4th inst., Wm. Griffiths Jones, M.R.C.S.E., of Neath, Glamorganshire, aged 54.

On the 8th inst., J. Clark, L.S.A.L., of Acton-place, Kingsland-road, aged 54.

On the 11th inst., at Churchfield-place, Margate, Mary, the wife of Albert P. Owen, Surgeon.

TERMS FOR ADVERTISING IN THE LANCET.

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Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday; those from the country must be accompanied by a remittance.

To Correspondents.

Mackem.—The letter of our correspondent on the Netley Medical School has had due consideration at our hands. It seems to us that the writer, in criticising so unfavourably as he does the Netley system of teaching, is at once vague and premature. He is expecting fruits of the Netley system before it has had time to produce them. And he is not specific enough in his charges of defect in the Netley men. Considering the special duties and heavy responsibilities devolving upon military medical officers in every part of the world—away from the collateral helps of which practitioners at home can always avail themselves,—it seems perfectly reasonable and highly desirable that candidates for the army should have some special teaching; and we can only be glad that they get it from such men as are now teaching at Netley. The system pursued at Netley has been highly approved by not only English authorities, but American and Continental ones, as the best in existence. At any rate, let us have specific and not hasty charges against a system so highly approved. Our correspondent must remember that the services on other grounds have not been popular, and that for various reasons the best men have not been entering them. So that the Netley School has not had the best material to work upon; yet it has produced good men.

J. M. should send us a report of the proceedings in the Sheriff's Court.

UTERINE HYDATIDS.

To the Editor of THE LANCET.

SIR,—Mr. William Allan Jamieson narrated in your issue of August 31st a very interesting case of Uterine Hydatids. I congratulate him on his good management of the case, as frequently serious floodings from non-contraction of the uterus endanger the life of the patient. I cannot, however, agree with him in the case being necessarily one of "hydatiginous degeneration of the ovum." The early history of his case points to the patency of the os uteri, with some effort at discharge, although the function was irregular, obstructed, and unhealthy, as might be looked for by the occupation of the uterine cavity by foreign bodies, and not as might be expected if closure had occurred after impregnation.

2nd. "No trace of the fœtus could be found." I do not believe there was ever any there. The echinococci occupy, grow from, or among tissues; but I must dissent from the view that they convert organic structures into their own cysts. The ills produced by their presence are simply those of foreign bodies, of pressure, in the localities they inhabit, whether these be the liver, lungs, heart, peritoneum, uterus, or other places. They are just as likely to have arisen from the free surface of the uterus as from the villi of the chorion; there they grew until the uterus was in a condition to get rid of them.

The membrane that encloses the numerous cysts is frequently of a firm fibrous structure, especially in the early growths; and although Mr. Jamieson has described it as placenta, I must again differ from him. A portion of placenta the size of a hand is out of all proportion for the age of the supposed fœtus (three to four months), and I would ask him if he has preserved it carefully to examine it again?

There is no doubt that these cystic parasites enter the blood through the stomach with the food; that the germs are carried along with the circulation; that they attach themselves by means of their hooklets, and bore through the walls of the vessel; that they emerge and select their future habitat by laws that we know nothing about, becoming encysted in the uterus or any other place.

I trust Mr. Jamieson will pardon these remarks, as I speak from a large experience of the subject. I am, Sir, yours, &c.,

Bournemouth, August 31st, 1867. W. L. RICHARDSON, M.D.

W. H.—The legal fee for attendance before the magistrate is ten shillings and sixpence; for every day from the date of the subpœna to the trial of the case at the sessions, one guinea, in addition to travelling expenses.

M.D., Assistant-Surgeon R.N.—We believe that it has not a retrospective effect.

POOR-LAW MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—It is pleasant to read that Dr. Curran, of the Mullingar Union, Ireland, after twenty years' work as a Poor-law medical officer, has been rewarded for his services by the Board of Guardians, by superannuation, in the vote of two-thirds of his salary, which has been sanctioned by the Poor-law Commissioners, in accordance with the Act 29 Victoria, chap. 28. As one of that class (and I think it is pretty well known we are all well worked and underpaid for our services), I beg to suggest that the whole body of Poor-law medical officers of the United Kingdom should sign a petition to the Poor-law Board, that after a certain term of years of service, and after sixty or sixty-five years of age, they shall be entitled to resign, and receive that amount for the remaining period of life. If this were done, there would be little doubt but that the petition would be granted, and made law. It would then be looked forward to as a great boon, and render all in the service more disposed to continue the rugged tenor of their way, under difficulties, with large families and small precarious incomes. All would then have a good hope of peace and rest in their declining years.

Your obedient servant,

September 7th, 1867. A POOR-LAW MEDICAL OFFICER.

Mr. W. J. Wilson, (Clay Cross.)—The answer was correct. The statute law overrules all bye-laws of any description whatever. The surgeon could not recover under the circumstances, inasmuch as he was not qualified by law to make the contract.

SHARP versus WILSON.

To the Editor of THE LANCET.

SIR,—Seeing that you cannot insert the letter I already sent you, will you allow me, through your columns, to ask of the Edinburgh correspondent his authority for stating that the decision in our Court of Session case, as pronounced by Lord Kinloch, had given general satisfaction to the profession in Edinburgh? I am, Sir, yours, &c.,

Cullen, N.B., Sept. 9th, 1867. JAMES WILSON, Surgeon, Defender.

Sanitas will do well to consult Mr. Fred. Charles Krepp's work, "The Sewage Question," published by Longman, Green, and Co. In this book will be found references to all the principal works and papers on sewage utilisation, and much useful information on the subject. Mr. Krepp has a particular hobby, which he rides unmercifully, but which must be studied by all who take an interest in the vexed question. In the last Annual Report of the Metropolitan Board of Works, "Sanitas" will find some information concerning the experimental measures projected for the utilisation of a portion of the sewage of London. See also the proceedings of the Sewage Congress held at Leamington last October.

Mr. J. C. Barrow.—The writer of the letter is no authority on the subject.

ACUPRESSURE AND VENESECTION IN THE HORSE.

To the Editor of THE LANCET.

SIR,—In the number of THE LANCET for August 31st (p. 284), your correspondent, "Desuper," avers that John de Vigo described the process of "pinning" used amongst farriers, when he said: "Modus autem ligationis earum [venarum vel arteriarum] aliquando efficitur intromittendo acum sub vena desuper filum stringendo eum facilitate." In this sentence John de Vigo does not state in any way, as your correspondent alleges, that the pin was "passed under the vein or through it, and the thread tightened upon, over, or on the top" of the pin. By the use, he asserts, of the word "desuper," "something different from a common ligature is meant." Certainly, because the thread was tied over or on the top of the vessel or flap, and included the skin and all the surrounding tissues. Your correspondent is also quite wrong as to what the operation of "pinning" in veterinary surgery is. In pinning, the pin is not passed under the vein, but merely through the lips of the wound in the skin; as witness this description by Youatt:—"When sufficient blood has been taken, the edges of the wound should be brought closely and exactly together, and kept together by a small sharp pin being passed through them. Round this a little tow or a few hairs from the mane of the horse should be wrapped so as to cover the whole of the incision." (The Horse, 1831, p. 248.)

In acupressure the object is to occlude the vessel; whereas in "pinning," the object is the very reverse—namely, to leave the canal of the vessel quite patent.

I am, Sir, yours, &c.,
September 3rd, 1867. FILUM.

B. A.—A medical practitioner has written to us under the above initials, calling our attention to the fact that the stools after the use of red French wines become in some cases of a dark colour. The observation is both interesting and important. We believe that the coloration in question is not due to lead or any other metal, but is occasioned by the presence of some of the unchanged colouring matter of the wine, and is to be regarded as an evidence of deranged or defective assimilation.

W. P. W. must send his name and address, and he shall receive a private note.

PAIN IN THE AXILLA AND PECTORAL MUSCLE.

To the Editor of THE LANCET.

SIR,—I beg to express my grateful acknowledgments to Mr. Chippendale for his kind suggestion as to the cause of pain in the axilla and pectoral muscle; but, with all due respect, I beg to differ from him in his opinion, as I sleep on a mattress, and have had for the last two months only a sheet to cover me. Every dermatologist knows that herpes is often accompanied with severe neuralgic pain, which was the case with me. At the time of its appearance, and after the eruption had disappeared, it was of that excruciating agony under the axilla, pectoral muscle, and left scapula, that I could not at night get any sleep, which rendered me so exhausted, together with loss of appetite, that even now I can scarcely bear carriage exercise. I am residing in a boggy, marshy country, and have invariably found during a long practice that neuralgia, like ague, in this locality is of a periodic character. Some professional brother, under the signature of "An Hospital Physician," kindly answered my appeal, and recommended painting the painful parts with a solution of iodine and collodion, and taking the syrup of iodine of iron during the day. This acted magically, so that I could get a little sleep at night, for which I shall ever feel grateful to him. The pain at this moment in the axilla is like that of several bundles of needles running into the skin, accompanied with great debility, for which I am taking the citrate of iron and quinine, and painting the parts with soft extract of opium and belladonna.

Kindly thanking you for the space you have allowed me in your valuable journal,

I am, Sir, yours very faithfully,
September, 1867. A SUBSCRIBER AB INITIO.

Vindex.—1. Not legally.—2. It is doubtful whether an action would lie if he were registered.—3. Proceedings could be taken under the Medical Act for the assumption of a title; but the result would be by no means certain.

THE communications of *Mr. Gompez* and *Mr. Nunneley* are unavoidably postponed until next week.

Inquirens, Z.—Not unless he has a degree in Medicine of some recognised University.

USE OF CARBOLIC ACID.

To the Editor of THE LANCET.

SIR,—I observe in THE LANCET of the 7th instant a notice to two correspondents, that their letters on the Use of Carbolic Acid shall be inserted in next Saturday's number.

As doubtless this plan of treatment of wounds is receiving, and will receive, due consideration from the profession, and it is important that all publicity should be given to cases which tend to corroborate Mr. Lister's observations, I have now under treatment a case of strumous periostitis of the shafts of both tibiæ going on to the formation of pus, which was treated about five or six weeks since by the plan recommended by Mr. Lister; and although the case is still under treatment, yet the result thus far has been so favourable in contrast with the treatment previously adopted in similar cases, and so little constitutional irritation has occurred, that I think it most encouraging; and therefore, if you agree with me, this note is at your disposal, as corroborative of what has been already written on the subject.

I will communicate the issue of the case at a future opportunity.

I am, Sir, your obedient servant,
Milton Abbas, September 16th, 1867. JOHN DYKES, L.R.C.P.

Coroner, (Sussex.)—1. It is usual and proper for the Coroner to pay the medical witness his fees immediately on the completion of the inquest. It is not customary to pay him before the inquest has terminated, as he might be required to answer questions at any period of the inquiry.—2. If the witness were subpœnaed under the provisions of the Medical Witnesses Act, he can sue the Coroner in the County Court for his fee.—3. It varies in different localities. As a rule, it is better to take the medical evidence after the other evidence has been given.

A Non-Professional has not authenticated his communication.

LADIES' BONNETS.

To the Editor of THE LANCET.

SIR,—Allow me to suggest that the members of the medical profession would do great good by denouncing the present style of ladies' bonnets. I am sure that unless there is some change in the fashion before winter sets in, toothache, neuralgia, and kindred diseases will prevail to a fearful extent.

When, some years ago, such an outcry was raised against small bonnets, they were warm and comfortable compared with those now worn. They at least covered the ears; while the patch of lace and flowers fastened with tulle strings, now called by that name, affords no protection whatever to the temples, the ears, or the neck. The worst of the matter is, that those who would willingly sacrifice fashion to comfort are compelled to suffer along with the others, as it is now almost impossible for a lady to purchase anything like a rational covering for the head.

I am, Sir, respectfully yours,
September, 1867. A DOCTOR'S WIFE.

Believe.—1. It would only be received as a surgical qualification. He must also possess a degree in medicine.—2. Full-pay assistant-surgeon, 10s. per diem.

A.B., C.M., L.R.C.S. (1867).—The Indian is now amalgamated with the Royal service.

H. B.—In Maury's "Physical Geography of the Sea."

GERMAN DEGREES.

To the Editor of THE LANCET.

SIR,—In reply to Dr. Hirsch's letter in your impression of the 7th instant, I beg to say that I am in a position to prove the assertion made by Sir Dominic Corrigan, Bart., in his speech at Dublin on the 10th of August, 1867, respecting German degrees; for I have in my possession a letter, dated Glasgow, July 9th, 1867, from a registered M.D., offering to procure me a diploma from Giessen for the sum of £32 12*s.*

I should consider this the act of "*an agent*," and shall be prepared to hand over the name of the party to the Dean of the Medical Faculty of Giessen if he thinks proper.

I am, Sir, your obedient servant,
September 11th, 1867. MEDICUS.

P.S.—I enclose my card.

C. B.—If no arrangement had been entered into between the first and second surgeon, the patient is bound to pay the one who attended him.

Dr. Mimo.—Under article 177; one pound.

A Northern Practitioner is thanked for his kind offer; but our arrangements will not allow of our accepting it.

CATERHAM AND DORKING WATER.

To the Editor of THE LANCET.

SIR,—As pure water is one of the foremost topics of the day, may I be allowed to ask Drs. Wanklyn, Chapman, and Smith to supplement their letter you published on the 6th of July last with a few particulars respecting the source and supply of the two places named as aforesaid, and which appears more highly favoured than Glasgow, with its model water obtained from Loch Katrine.

Trusting to hear more of the natural or artificial source of such pure water,

I am, Sir, yours respectfully,
JOSEPH HOMFALL.

Fairbottom Colliery Company, Manchester, Sept. 10th, 1867.

Dr. Henry Walker.—The following is the full statement of the case referred to:—

"On Wednesday evening, the 28th of August, my partner and myself were sent for to attend a man hurt on the railway, my partner being surgeon to the Railway Club, of which the man was a member. On examination under chloroform, a large lacerated wound was found on the inner side of the left ankle, laying bare the internal lateral ligament, and extending into the joint on the outer side over the malleolus. There was another wound, which extended under the os calcis, and so dividing the tissues of the heel from that bone. There was a little bleeding from some small vessels, but the main arteries were uninjured. We dressed the wound with layers of lint steeped in carbolic acid and glycerine, covering the whole over with a bandage, and elevating the limb on pillows. The next morning I saw him in consultation with Mr. Thompson, a surgeon in the neighbourhood, who coincided in my opinion that it was advisable to seal up the wound by the means employed, for the purpose of excluding the air, as the only hope of saving the limb was to avoid suppuration. I again saw him in the evening, and, finding him sleeping very comfortably, did not disturb him. On Friday morning I again visited him, and was very much surprised and annoyed to find that, without my knowledge or sanction, he had not only been visited by Dr. Henry Walker, but also that the dressings had been removed, and the wound examined, thus exposing it to the air, and doing away with the benefit I had hoped to receive from the treatment. Such being the case, I declined to have anything more to do with it."

The writer is Mr. Pearse, Brierly Hill.

L.R.C.P. Lond.—1. It is usual to prohibit him from practising, not residing, within three miles.—2. Such a document is legally binding, and any breach of the covenant entered into can be punished either by a court of equity or of law: in the first by an injunction; in the second, for recovery of the stipulated penalty.

S.—When a gentleman succeeds immediately after partnership to the practice of his partner from death, it is usual for him to retain the appointments which belonged to the firm. It would be ungenerous, at least, on the part of any professional brother to oppose his succession.

THE correspondent who asks *What is Fever?* should read Dr. Murchison's work on the subject.

T. D. C. (Bristol) should consult some respectable medical practitioner in his own town.

Mr. W. Horn.—It is better to treat anonymous attacks with contempt.

ON TINNITUS AURIUM.

To the Editor of THE LANCET.

SIR,—Fresh attempts to elucidate a subject so confessedly difficult as tinnitus aurium are looked forward to with deep interest, more particularly when the investigator is known to be a person of high attainments, or has devoted much time to the study of his subject. Those of your readers who reasonably expected to obtain some addition to their knowledge of this disease, or rather symptom of disease, from Mr. Bishop's papers published in THE LANCET of July 20 and 27, must have been, like myself, grievously disappointed, as there is not the smallest addition made therein to what was previously known of the pathology and treatment of tinnitus aurium, or of the acoustics of the sense of hearing. I wish to offer no observation whatever on the good taste, to say the least, of his suggestion as to the want of a knowledge of acoustics shown by aurists past and present, and his recommendation to the latter to follow him in his studies, undertaken since the death of Mr. Toynbee; nor would I ask the insertion of this communication did I not feel that he has left the question more obscure than he found it. He says tinnitus aurium must be attributed to sounds traceable to some existing defect in the nervous structure of the labyrinth; that treatment must be directed solely to this part of the organ, whether such treatment be constitutional or local; and that treatment directed to the parts external to labyrinth—that is, to tympanic cavity, Eustachian passages, or external ear—is to be deprecated as useless or dangerous; and he illustrates his subject by referring to the sad end of the late Mr. Toynbee. Now, if tinnitus aurium were never met with except under these circumstances, there could never be a question as to the treatment by appropriate constitutional and local remedies directed to the seat of lesion. But what is to become of "two-thirds" of all the cases of deafness (by far too low an estimate), most of which (quite 90 per cent.) present this symptom as one of the most distressing items of their malady?

The eminence attained by several practitioners of aural surgery has arisen in a great measure from being able to discriminate between cases in which tinnitus aurium has its seat in the appendages of the ear, and *not in the labyrinth*—a condition of very common occurrence, and on which I had hoped some new light would have been shed in these papers. The cases quoted by the writer, as reported by Sir G. Blane, are a sufficient illustration, in one of which he says the tinnitus must have resulted from wax in the meatus, or have been caused by an ordinary cold in the external ear. Surely if such causes as these produce tinnitus, we must, and do, meet with it in numerous instances in which the internal ear is not involved, unless, indeed, the cold and resulting inflammation, or the pressure from the plug of wax, is allowed to go on without check or hindrance until inflammatory action is set up within the labyrinth.

It is a most interesting question why the plug of wax in the external meatus, or the existence of inflammation of the external ear, should cause, which they often do, tinnitus aurium; and if Mr. Bishop had brought forward any facts or arguments bearing on this point, it might have been of assistance in arriving at a solution of many difficulties affecting this question, and possibly even have given an insight into the nature of the malady when it has its seat *within* the labyrinth. I have myself formed an opinion on this subject, and as such opinion is the groundwork for a system of treatment I introduced to the notice of the profession a year and a half ago, and which I think very rudely attacked by the writer, I will venture, by your kind permission, to lay it before your readers. I will ask, then, does not the plug of wax, by pressing upon the membrana tympani, produce a corresponding pressure, through the medium of the solid communication across the tympanic cavity (the ossicula) on the membrana ovalis, which shuts in the waters of the labyrinth? And is not the pressure thus set up communicated to the expansion of the acoustic nerve exactly in the same way that ordinary sounds are? Again, in inflammatory affections, whether acute or chronic, whether caused by cold or poison of a specific character, affecting the mucous membrane of the cavity of the tympanum, is it not reasonable that a similar action is induced by the swelling of the mucous membrane diminishing the cavity of the tympanum, and binding down more tightly the stapes in its position? Does not the history of an acute case of otitis confirm this view, from the slight hum at the commencement of the attack to the violent rushing sound as it arrives at its climax, and its *immediate* cessation on the exit of the matter? Why should not the same effects, modified in degree, and subject to almost endless variation in character, result from chronic inflammation and thickening of the mucous membrane of the Eustachian passages and tympanum, than which nothing is more common in damp climates, or indeed in any climate where there is much exposure to sudden vicissitudes of temperature.

I do not offer this suggestion dogmatically, though I think it based on reasonable grounds. Moreover, it is strengthened by a fact of great interest—viz., that tinnitus is rarely met with coincident with ruptured membrane and external discharge. In such a case, of course, pressure is removed; nay, even the proper amount of pressure necessary for the exact counterpoise between the weight of the atmosphere and the external air is lost by this means, and deafness to a greater or less extent is often the result, though not invariably so, and must be remedied by a restoration of the normal condition of the parts by artificial means.

Impressed with the truth of this position, I have been one amongst others who have been led to look for an advance in scientific treatment of aural disease in this direction by a more careful diagnosis of cases attended with tinnitus, and where I could satisfy my mind that the appendages of the ear are involved, to direct my treatment accordingly. If the former treatment of these cases of tinnitus had been very successful, there would be some reason why the old orthodox routine should be continued as before. But is it so? Are they not still among the *opprobria* of the profession? It is a pity the writer has introduced Mr. Toynbee's case as an illustration of the danger of applying remedial agents to the cavity of the tympanum, as no one with the smallest regard for life would undertake such an experiment, even were it likely to throw additional light on the subject.

I am, Sir, yours obediently,

Sackville-street, July 29th, 1867. EDWD. BISHOP, M.D., &c.

A. W. B. C. should apply to the Secretary of the Government Emigration Commission, Duke-street, Westminster.

Mr. Edward Payne Philpots will find his name in a list published in our issue of the 4th of May last.

Inquirer.—1. Erlangen.—2, Yes, by courtesy, but not by right.

COMMUNICATIONS, LETTERS, &c., have been received from — Prof. Gamgee, Birmingham; Dr. Murchison; Prof. Lister; Mr. Parkinson; Mr. H. Brown; Mr. Nunneley, Leeds; Mr. Richardson; Dr. Down; Dr. Mums, Thetford; Dr. Henius, Taemel, Hayti; Dr. Marshall; Mr. T. Edwards; Dr. Dale, Scarborough; Dr. Medd; Dr. Daniell; Mr. Cameron; Dr. Evans; Dr. Odling; Mr. Bean; Dr. Wallace; Dr. Garman; Mr. Stewart; Mr. Vernon; Dr. Foy; Mr. Rowen; Dr. Spratly; Mr. Lamb; Mr. Hooper; Dr. Goode; Dr. Coats; Dr. Garrett; Mr. Hulme; Mr. Armstrong; Mr. W. Roberts; Mr. Adams; Mr. Ward; Mr. Hadden; Mr. Lloyd; Mr. Cannon; Mr. Morrison; Mr. Hill; Dr. Leslie; Mr. Foster; Mr. Bywater; Dr. Ewens; Mr. Forbes; Mr. Scott; Mr. Taylor; Mr. Dalton; Mr. Telfer, Devonport; Mr. Martyn; Mr. Beet; Mr. Beckett; Mr. Brewer, Huddersfield; Mr. Ellis, Llanelly; Mr. Spragge; Dr. Nelld, Melbourne; Mr. Jones; Mr. Stubbs; Mr. Holding; Mr. Baker, Manchester; Mr. Nicholls, Topsham; Mr. Gell; Mr. Williams; Mr. Clark; Dr. Rutherford, Boness; Mr. T. Thomas; Mr. Knowles; Mr. Armatage; Mr. Barrett; Dr. Morven; Dr. Bousfield; Mr. Englefield; Dr. Robertson; Mr. J. Ingham; Mr. Hosking; Dr. Griffith; Dr. Fairless; Mr. Chapman; Dr. Belgel; Mr. Moore; Mr. Terry; Mr. Nurdin; Mr. Waters; Mr. Teevan; Mr. Weeden Cooke; Mr. Crofts; Dr. Barrow; Dr. Knox, Bakewell; Mr. J. Murphy; Mr. Harrison; Mr. P. J. B. Smith; Mr. Sherwood; Dr. Harris; Mr. Fox, Manchester; Mr. Soames; Mr. Chippendale; Mr. Bradley, Liverpool; Mr. C. Smith, Millenhall; Mr. Barth; Mr. Judge; Mr. Philpots; Mr. Horn; Mr. Skipp; Mr. Webb; Dr. Johnson, Lancaster; Mr. Orton; Dr. Redmond, Wells; Dr. Buchanan; Dr. Hicks; Dr. Paull; Mr. Potter; Mr. Middleton; Mr. Bayle; Mr. Farthington; Mr. Hawkins; Dr. Gibson; Mr. Minter; Mr. Squire; Dr. Horsfall; Mr. Grant; Mr. Davison; Dr. Ling; Dr. Owen, Dublin; Mr. Ricketts; Mr. Thorman; Mr. J. Wilson, Cullen; Mr. Hill; Mr. Grosvenor; Mr. Haslam; Dr. Mussen; Mr. E. Hart; Dr. Roe; Dr. Dobell; Dr. Marsh; Mr. Morton; Dr. Hargill; Dr. Vance; Mr. White; Dr. Maudsley; Dr. Reynolds; Dr. Haughey; Dr. Lethaby; Dr. Campbell; Mr. Phillips; Dr. Acland; Mr. Stone, Manchester; Dr. Cummins, Dublin; Dr. Moore; Dr. Wyer; Mr. Hunter; Dr. Collet; Mr. Holmes; Dr. Perry; Dr. Atkinson; Inquirens, Z.; Vis; X., M.R.C.S.; A Constant Reader; An Undergraduate of the University of London; A Country Druggist; L. M.; The Surgeon-General U.S. Army, Washington; S. A. S.; &c. &c.

THE *North British Daily Mail*, the *Hexham Courant*, the *New York Globe*, the *Cheltenham Chronicle*, the *Liverpool Albion*, the *Gleaner* (Jamaica), the *Court Circular*, the *Chatham News*, the *Torquay Times*, the *Laboratory*, the *Sunday Gazette*, the *County Times*, the *Isle of Wight Advertiser*, and *Sheldrake's Aldershot Gazette* have been received.

Medical Diary of the Week.

Monday, Sept. 23.

ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 1½ P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

Tuesday, Sept. 24.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

Wednesday, Sept. 25.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
ST. MARY'S HOSPITAL.—Operations, 2 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
OPHTHALMIC HOSPITAL, SOUTHWARK.—Operations, 2 P.M.

Thursday, Sept. 26.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 1 P.M.
ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

Friday, Sept. 27.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
QUEKETT MICROSCOPICAL CLUB.—8 P.M. Mr. W. T. Suffolk: "Dry Mounting."—Mr. J. Slade: "Snails' Teeth."

Saturday, Sept. 28.

ST. THOMAS'S HOSPITAL.—Operations, 9½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
ROYAL FREE HOSPITAL.—Operations, 1½ P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.